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MANUFACTURERS' RECORD.

THE MANUFACTURERS' RECORD is a weekly illustrated journal of quarto size, devoted to the Industrial, Financial, Railroad and Commercial Interests of the South. In its various departments it treats of the material interests of the South from a practical standpoint, with illustrations of a high order whenever they can be used to advantage. The important industries of the South are discussed under the following heads:

TEXTILES.

RAILROADS.

COAL and COKE.

IRON INDUSTRY.

PHOSPHATES.

LUMBER.

MECHANICAL.

CONSTRUCTION.

The Phosphate, Lumber and Iron Departments contain carefully-prepared market reviews by special correspondents in the leading trade centres. The Construction Department is one of the unique features, being a complete record of all new industries organized or established in the South.

There is no other publication that treats so fully and with such authority the material interests of the South, and the MANUFACTURERS' RECORD is everywhere looked to for information about the South. For ten years it has been devoted exclusively to the work of making known to the world the resources and progress of the South, and as an exponent of Southern industrial, commercial and financial affairs it stands without a rival.

The subscription price of the MANUFACTURERS' RECORD is four dollars per year.

Manufacturers' Record Publishing Company,

BALTIMORE, MD.



MANUFACTURERS' RECORD BUILDING, LEXINGTON AND NORTH STREETS, BALTIMORE.

SUCCESSFUL TRADE JOURNALISM

The pioneers in the publication of journals devoted to various lines of trade and industry probably never imagined, even in their most hopeful moods, that this branch of journalism would ever reach the importance by which it is marked at the present time. The few publications of this class which were in existence thirty or forty years ago were of small proportions and limited circulation. Illustrations were sparingly used, and the enterprise that characterizes the great trade journals of the present day was unknown. Advertising was then an unknown art among manufacturers, and the patronage of the most flourishing trade paper of those days would not pay the paper bill of a corresponding publication of the present time. But trade journalism has developed rapidly, perhaps not less so than daily journalism, and now publications devoted to industries, trades and professions are numbered by the thousands. Every important industry has its representative weekly or monthly journals and some branches of trade have scores of publications. Several of the larger weekly journals publish as much matter in each issue as is contained in any of the great popular monthly magazines. There are, perhaps, a score of trade journals whose profits approximate those of a prosperous city daily. The fact that the publishers of one of the great English technical journals, which has its equals in this country, incorporated their business with a capital of \$750,000 about a year ago, gives some idea of the magnitude that has been attained by this branch of journalism. And it is a some-

what significant fact that few of the successful trade publications of today started with much other capital than the brains and energy of their founders.

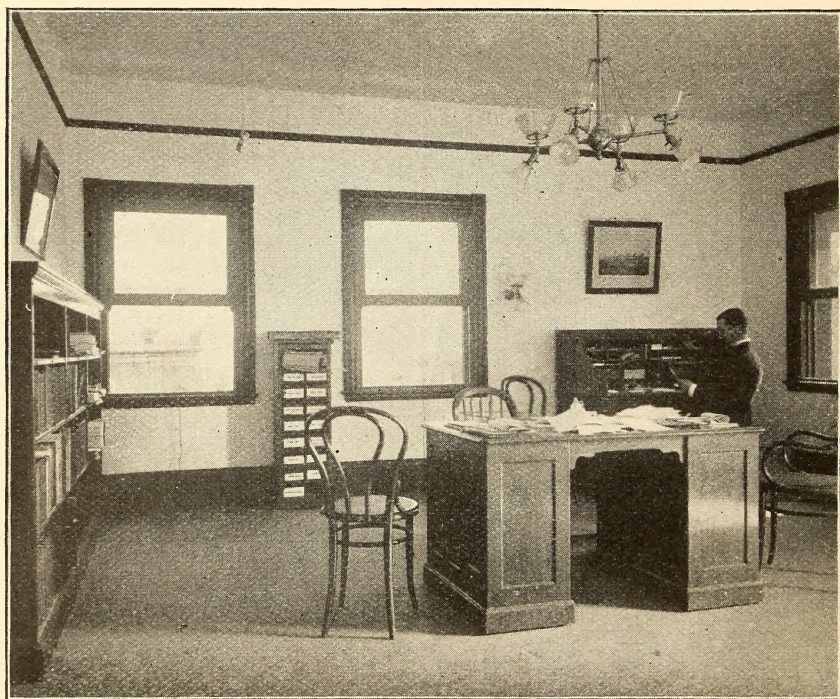
Success in trade journalism follows the diligent pursuit of a definite idea, a devotion to a single and well-chosen object. It is not often that two successful journals can be found working in the same field and upon the same plan. Every successful trade journal has its distinctive field and individual line of work. More and more are papers of this class narrowing their fields and specializing in a minute manner, and nearly every day witnesses the birth of a new journal designed to follow between narrow lines, to work studiously and persistently upon a single idea.

The MANUFACTURERS' RECORD, of Baltimore, Md., furnishes a striking illustration of the value of a defined purpose and a persistently-followed plan in trade journalism. This journal is the outgrowth, the development, of an idea, simple in itself, but of exceeding value because strictly adhered to through many years. This idea, which ten years have not altered, was the stimulation of the industrial growth of the South by making known to the world the resources and possibilities of that section. How fruitful has been this idea in results to the South and to the journal that has so assiduously fostered it is known to everyone who knows the South and the MANUFACTURERS' RECORD, two things that are never separated.

The venerable *Baltimore Journal of Com-*

merce, still energetic and progressive, is one of the oldest trade publications in this country, being now in its forty-fourth year. For many years it was published by the late George U. Porter, and for a long time it was under the editorial charge of Richard H. Edmonds. A devotion to the South, a familiarity with its conditions and possibilities and a desire to enter a field then unoccupied developed in the mind of Mr.

Journal of Commerce and Manufacturers' Record, at the same time abandoning the cumbersome four-page sheet for a sixteen-page paper of the present size. This change was made in February, 1882, and for a year the dual publication enjoyed a successful career. It was then deemed for the advantage of both ideas embodied in the paper that it should be separated into two distinct publications, and in November, 1882,



MANAGING EDITOR'S OFFICE.

Edmonds the idea of an industrial journal to be devoted to the South; a medium for the circulation of Southern industrial news and for the transmission of specific information about the resources and possibilities of that section. Mr. Porter, upon whom this idea was frequently urged, did not fully enter into the spirit of the plan, but compromised by extending the scope of his paper and changing it to the

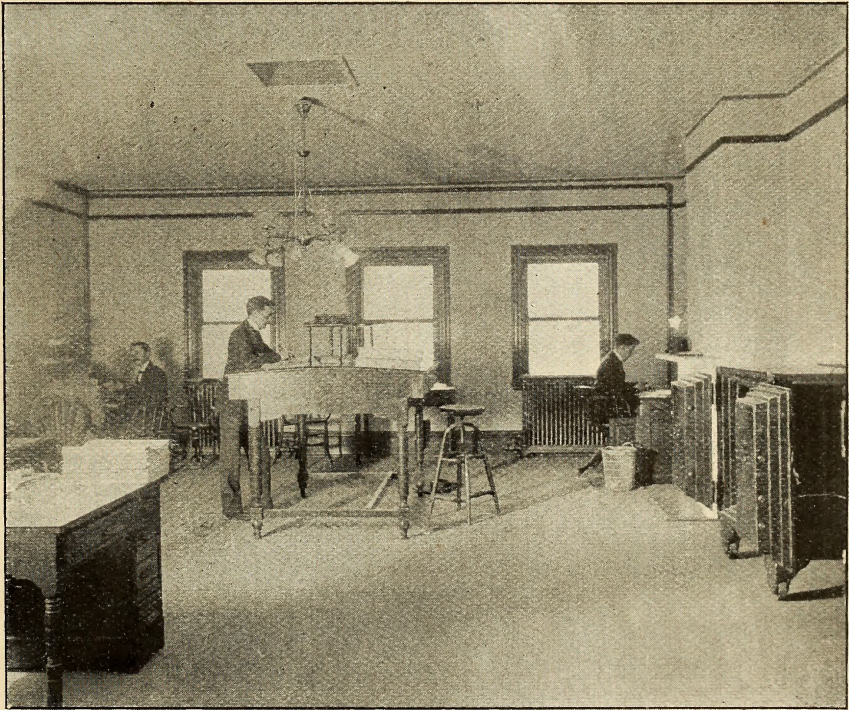
the present *MANUFACTURERS' RECORD* entered upon a career which has been marked by continually increasing influence and prosperity. Mr. Edmonds continued his management and for a year or two also edited the *Journal of Commerce*.

The first home of the *MANUFACTURERS' RECORD* consisted of desk-room in an office in the present Peabody Fire Insurance Building on Second street, next to the

custom-house. There was desk-room only, and a small allowance of that. When the growth of the paper required more room an office was taken on an upper floor of the Maryland Fire Insurance Building in the same neighborhood. A climb of four flights of stairs was something of an obstacle to the convenient transaction of business, and another move brought the office of the paper to quarters it long occupied in Ex-

and best-equipped printing-houses in Baltimore.

Urgent need for better and more ample accommodations resulted in the plans for a handsome seven-story office building, work upon which was begun in the fall of 1891. This handsome structure stands at the corner of Lexington and North streets, diagonally opposite the city hall and postoffice, a location that is at once convenient and



BUSINESS OFFICE.

change place, at the corner of Commerce. To the single office, which at first answered all purposes, other rooms were added, one by one, until the working force of the paper filled five offices on the second floor. A printing office, first intended to do the work of the MANUFACTURERS' RECORD, developed into a separate enterprise which filled the two upper floors of the building and has expanded into one of the largest

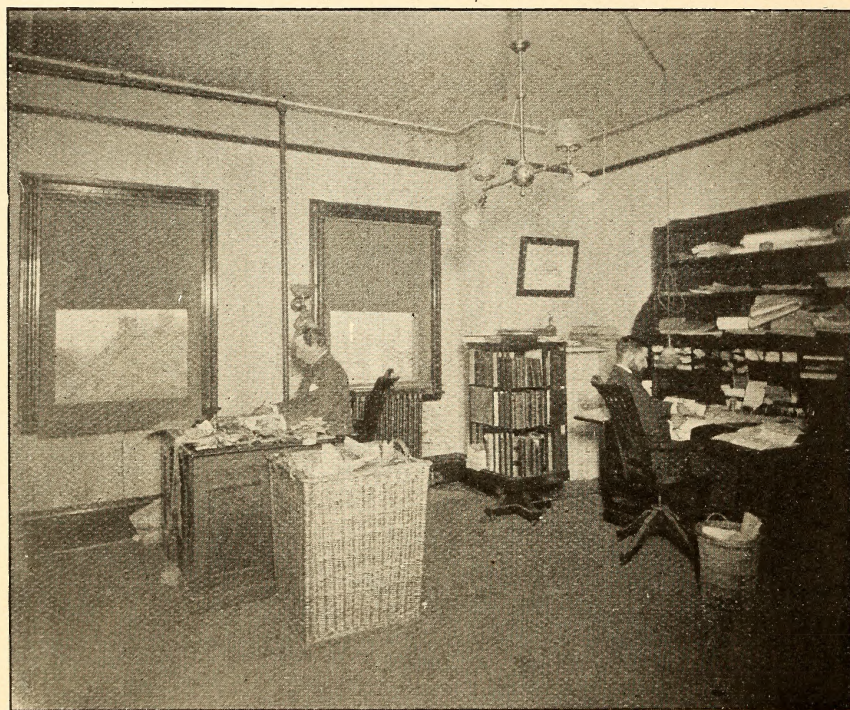
conspicuous. The building was completed in September, 1892, and October found the MANUFACTURERS' RECORD installed in its present quarters, which are such as few trade journals occupy.

The Manufacturers' Record Building is a massive seven-story structure, built of brick, with ornate brown sandstone trimmings, having a frontage of fifty feet on Lexington street and extending along North

street to a depth of 125 feet. The building is modern in every respect, being designed solely for office purposes. The main entrance is on Lexington street through a marble-tiled hall, with wainscoting of quartered oak. An Otis electric elevator runs swiftly and smoothly from floor to floor in the centre of the enclosed building, with handsome grill work in polished brass. The interior

divided into two large offices; above this the building contains thirty-six offices, every one of which is practically an outside room with abundance of daylight and ventilation. Few such cheerful offices can be found anywhere, even in the great towering piles of New York, Boston and Chicago.

The MANUFACTURERS' RECORD occupies the entire seventh floor of the building, high above the noise and dust of the streets,



EDITORIAL ROOM.

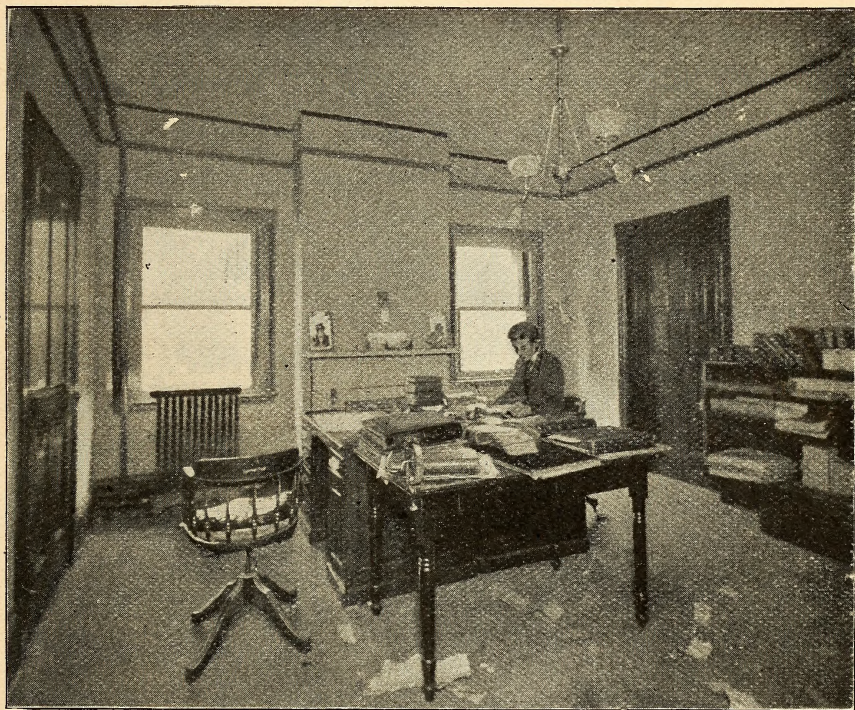
finish throughout the building is quartered oak, an unusually handsome assortment of wood having been gathered for this purpose. The walls are tinted in a light shade that softens the abundant light in every office. There are both gas and electric lights in every room and the building is heated by steam. A mail chute extending through every floor affords an additional convenience to tenants. The ground floor is

where no neighboring buildings can shut out the sunlight. The arrangement of this floor is precisely the same as all the others above the first story. There are six offices, four communicating rooms on one side and two large offices of equivalent area on the other side. The entrance immediately facing the elevator opens into the general office, which contains the business manager, advertising department, bookkeepers, etc.

A large communicating office in the rear is devoted to stenographers and typewriters, subscription department and desks for several local and traveling agents. On the other side of the building, opening from the general office, is the managing editor's room, a cheerful and handsome corner office, which commands a fine view of the city. Adjoining this is a room occupied by other members of the editorial staff; be-

and supplies. All of these offices are devoted to the work of the MANUFACTURERS' RECORD and MANUFACTURERS' RECORD MAGAZINE. The patrons and friends of these publications are always welcomed here and the facilities of the office are at their disposal.

Ever since its establishment the MANUFACTURERS' RECORD has been devoted entirely to the work of encouraging and stimulating the growth of the South through



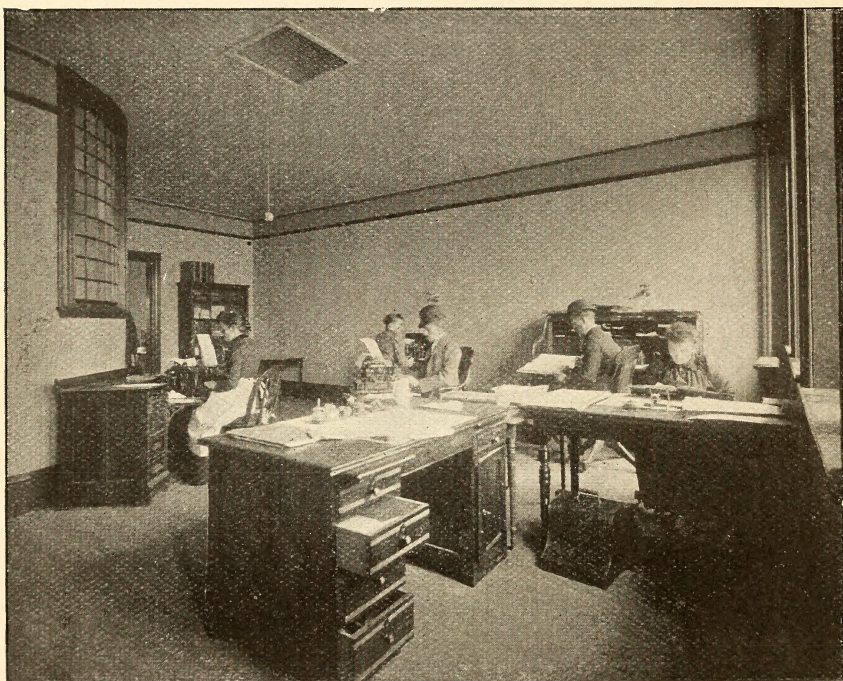
EDITORIAL ROOM.

yond this is the Construction Department, a feature of the MANUFACTURERS' RECORD with which all its readers are familiar, and upon which most of the other trade journals depend for their news of Southern industrial matters. At the end of this suite of offices is the file room, lined with shelves and pigeon holes, for keeping files of the MANUFACTURERS' RECORD, exchanges, correspondence files, letter books, electrotypes

and the development of its natural resources. Since the first issue it has adhered unwaveringly to the policy adopted at the beginning. It has had a fixed purpose, based on absolute faith in the cause it represented. In all these years it has never halted or doubted or compromised for a single moment, and though at times its claims for the natural resources and possibilities of development of the South were

criticised and ridiculed by the incredulous public, it has lived to see amply substantiated and verified all it ever claimed for the South. Its forecasts of Southern progress have been abundantly fulfilled, while the world has been brought to acknowledge the inconceivable variety and magnitude of the South's material wealth and to look to the MANUFACTURERS' RECORD as the one general and authentic source of knowledge

told to a handful of listless auditors. Today it speaks to the largest audience addressed by any trade or technical publication in the world, first, by its own widespread circulation, and, second, through the copious quotations from its columns by the daily and weekly newspapers. The latter characteristic has given it the reputation of being the "most widely quoted industrial paper in the world."



CORRESPONDENCE AND SUBSCRIPTION DEPARTMENTS.

concerning Southern material affairs.

The founders of the MANUFACTURERS' RECORD have had the gratification of seeing its work for the South yield rich results, while incidentally, as a profitable business undertaking, it has been a pronounced success. When the MANUFACTURERS' RECORD joined its fortunes with those of the then comparatively impoverished South, its story had to be

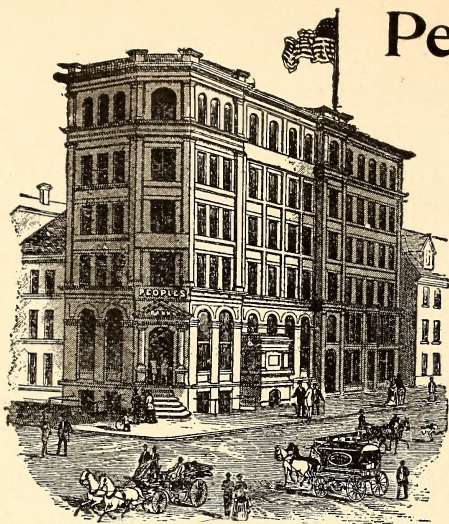
In the columns of the MANUFACTURERS' RECORD the various branches of Southern resources and progress are treated in different departments. The Textile Department contains specially prepared articles upon the cotton and woolen industries of the South, the culture of various fibres and all the news of these branches of industry. The Phosphate Department, the only one of its kind, is devoted to the phosphate in-

dustry of South Carolina and Florida. Correspondents at all of the mining centres furnish news of the industry, the developments in each region and carefully prepared reviews of the condition of trade. The Coal and Coke Department treats fully of this great branch of Southern industry. The Lumber Department deals with Southern timber resources and their development, with a series of market reports from the leading centres which are recognized as accurate and authoritative. The Mechanical Department is devoted chiefly to illustrated descriptions of the latest ideas in machinery of various kinds, supplemented by general articles of interest to the mechanical industries. The Railroad Department presents each week the news of the Southern railroads, with a letter from Wall street treating of financial topics of general interest and of Southern questions bearing upon railroad interests. The iron and cotton markets are also carefully and accurately reviewed each week. The Construction Department is a unique feature of the paper and one to which much of its success is due, as it chronicles each week the organization of every new industry in the South, the extension of existing establishments, the formation of new banks and other financial institutions, the placing of contracts for new buildings, and all important items of new railroad construction, surveys and projects. This department of the paper is more carefully read and more extensively copied than any other feature.

Naturally a journal of such standing and influence is recognized as an exceedingly

valuable medium for advertising. Its intimate association with the organization of new industries in the South has made it the first resort of those who intend to establish new industrial plants, and they seek its advertising pages as a guide in making purchases of engines, boilers, machinery, tools and supplies of every character. This fact has brought to the MANUFACTURERS' RECORD an advertising patronage such as is enjoyed by but few trade publications in the world. Its advertisers in each issue at the present time (January, 1893,) average about 560, their announcements filling from forty-four to fifty large pages. Many of its present advertising patrons have occupied its pages continuously since its earliest years. There is probably no publication of its general character in existence which enables advertisers to trace beneficial results so surely and directly. As a matter of course, manufacturers of machinery, tools and supplies who desire to reach Southern buyers now turn naturally to the MANUFACTURERS' RECORD. Years of experience and success have demonstrated the merit of such a means of establishing trade.

In March, 1892, Richard H. Edmonds and his brother, William H. Edmonds, who for so many years conducted the MANUFACTURERS' RECORD and established its success, retired from their ownership of the paper, which has since been owned and published by the Manufacturers' Record Publishing Co., a corporation whose stockholders represent large and diverse interests in the South.



People's · Bank,

Hopkins Place and Lombard St.

Chartered 1856.

BALTIMORE, MD.

WILLIAM S. CARROLL, President.

J. HENRY JUDIK, Vice-President.

JOS. A. MCKELLIP, Cashier.

Capital,	-	-	-	-	-	-	-	\$225,000
Surplus and Undivided Profits,								16,000

This Bank has superior facilities for making COLLECTIONS throughout the State, having correspondents in all the principal cities. Proceeds promptly remitted. We would be pleased to receive a share of your patronage.

The Old Town Bank,

BALTIMORE, MD.

Capital,	-	-	-	-	-	-	-	\$150,000
Surplus,	=	=	=	=	=	=	=	140,000
Undivided Profits, (Jan. 1st, 1893,)								38,040
Average Individual Deposits,	=	=	=					825,000

No interest allowed upon deposits. Collections at low rates and quick remittances. Special attention is paid to private accounts and to receiving sums of money for safe keeping for long or short periods.

E. G. HIPSLEY, President.

THEO. F. WILCOX, Cashier.

John Meeth, Prest. N. H. Storey, Vice-Prest.
Howard P. Orem, Casnier.

South Baltimore Bank

Capital, \$100,000.

Originally Chartered 1872. Amended 1888.

807 Light Street, BALTIMORE, MD.

The National Bank of Commerce.

BALTIMORE, MD.

Eugene Levering, Pres. Geo. O. Manning, Vice-Pres.
Jas. R. Edmunds, Cashier.

Capital, \$300,000. Surplus Profits, \$85,000.

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Accounts Solicited.

De Courcy W. Thom.

John Redwood.

THOM & REDWOOD,

Bankers and Brokers,

No. 11 South Street,

BALTIMORE, MD.

SPECIAL DEALERS IN INVESTMENT SECURITIES.

BROWN & LOWNDES,

Bankers and Brokers,

Stock Exchange Building,

BALTIMORE, MD.

We have the best facilities for executing orders in Stocks and Bonds in this and in other markets.

INFORMATION FURNISHED PROMPTLY.

We solicit correspondence from residents of Maryland, Virginia and North Carolina, being specially familiar with the Securities of these States.

UNITED STATES DEPOSITORY.

The Merchants' National Bank,

BALTIMORE, MD.

Capital \$1,500,000.

Surplus \$500,000.

DOES A REGULAR BANKING BUSINESS.

DOUGLAS H. THOMAS, President.

EDWARD H. THOMSON, Cashier.

Collections Carefully Made and Promptly Accounted for on Moderate Terms.

FISHER & SHAW,

Investment Bankers

AND

Members Baltimore Stock Exchange.

NEGOTIATORS OF AND DEALERS IN
MUNICIPAL LOANS AND LOANS OF WATER, GAS, ELECTRIC
LIGHT AND STREET RAILWAY COMPANIES POSSESSING
MUNICIPAL FRANCHISES.

Stocks and Bonds Bought and Sold on Order and an Assortment of
Investment Securities always on hand and for sale.

OFFICE, 4 SOUTH CALVERT STREET,

P. O. Box 21,

Telephone 953.

BALTIMORE.

R. B. SPERRY,

DEALER IN

Investment * Securities,

No. 5 Consolidated Building,

S. W. Cor. South and German Streets,

BALTIMORE, MD.

SPECIAL FACILITIES FOR HANDLING ISSUES OF SOUTHERN STATE,
MUNICIPAL, RAILROAD, STREET RAILWAY, GAS AND
WATER COMPANY BONDS

A Line of Carefully Selected SECURITIES Constantly on Hand for Prompt
Delivery. Everything I offer has the benefit of my personal Inves-
tigation and the best Legal Advice that can be obtained.

JAMES G. WILSON.
FREDERICK M. COLSTON.
WILLIAM B WILSON.

WILLIAM WILSON & SONS,
Established 1802.

WILSON, COLSTON & CO.,
Established 1867.

WILSON, COLSTON & Co.

(Members of Baltimore Stock Exchange,)

BANKERS,

216 EAST BALTIMORE STREET,

BALTIMORE.

INVESTMENT and Miscellaneous SECURITIES a Specialty, and Whole Issues Handled.

Exceptional Facilities for Dealings in all Classes of SOUTHERN BONDS.

LOANS on Collateral Securities Negotiated.

QUOTATIONS and Information Furnished on Application, and Correspondence Invited.

J. Wm. Middendorf.

Wm. B. Oliver.

MIDDENDORF, OLIVER & CO.

Members Baltimore Stock Exchange.

Bankers and Brokers,

(No. 213 EAST GERMAN STREET, Keyser Building,)

BALTIMORE, MD.

Stocks and Bonds Bought and Sold on Commission.

Special attention given to **Municipal** and other **Investment Loans**.

Dealers in **Foreign Exchange**.

Drafts on Europe and **Letters of Credit** Furnished.

Mercantile Trust and Deposit Co.

OF BALTIMORE, MD.

CAPITAL PAID UP,	- - - - -	\$1,000,000
UNDIVIDED EARNINGS, INCLUDING SURPLUS,	-	500,000

**Designated a Legal Depositary for Trust Money by
Act of Incorporation.**

Current Interest Allowed on Deposits.

Special Rates on Time Deposits.

Established for the Execution of all manner of TRUSTS, the Management and Settling of ESTATES, as Executor, Administrator, Assignee, Receiver, Guardian, Trustee, Agent or Attorney.

Special attention given to the COLLECTION OF RENTS, Etc.

Acts as REGISTRAR AND TRANSFER AGENT for Railroad Companies, States, Cities, Counties, Towns and Villages, and as TRUSTEE for Railroad or other Corporation Mortgages.

Saves for Rent and Storage Received on Moderate Terms.

JOHN GILL, President.	W. W. SPENCE, First Vice-President.
L. C. FISCHER, Secretary and Treasurer.	C. R. SPENCE, Third Vice-President.
JOHN MCHENRY, Asst. Sec. and Treas.	

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LOUIS McLANE, Chairman.
ANDREW REID, BERNARD CAHN, JOHN A. HAMBLETON, J. WILLCOX BROWN.

DIRECTORS.

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CHRISTIAN DEVRIES,
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ALEXANDER SHAW.
CHAS. W. SLAGLE.

Building N. E. Corner German and Calvert Streets.

OFFICE HOURS 9 A. M. TO 4 P M

MANUFACTURERS' RECORD MAGAZINE.

FEBRUARY, 1893.

PRESENT PROSPERITY OF THE SOUTH.

By Richard H. Edmonds.

The New Year opens with brighter prospects for the South than it has enjoyed at any time since 1861. At present the activity in business may be less than at some former periods, and some of the enthusiasm which marked the speculative era that commenced in Birmingham in 1885 and 1886, and thence spread Northward to the Virginias, may be wanting, but after a careful study of the whole situation it is safe to repeat the statement made in the opening sentence of this article. Ten years ago the South was not considered a factor of any great importance in the manufacturing interests of the whole country. It was practically without any strong financial friends in the North and in Europe, and it had before it the certainty of a hard struggle to overcome the prejudice of investors and to convince the world that it could produce iron and manufacture cotton in competition with any other section of the United States. The tide of surplus money seeking investment and of surplus energy seeking profitable fields of operation had for years been flowing Westward. To turn it Southward seemed a hopeless task to undertake.

Five years ago the South had won many friends among the financial leaders of the country; it had convinced the most skeptical that its resources in coal and iron were greater than those of any other country, that their proximity would enable it to produce pig iron at a minimum cost, and that it could profitably ship iron North and West; it had given the strongest proof, through the financial success of its mills, that it had every needed advantage to enable it to become the seat of great cotton manufacturing interests, and its future looked very bright. But these favorable conditions existed while there was universal prosperity throughout the country except in some Western agricultural districts, and the stability of the South's

growth had not then been tested by any wide-reaching financial panic. The test, however, soon came. The Baring failure, followed by a year or more of universal stagnation in finances and of the lowest prices ever known for pig iron and for cotton, was an ordeal through which none but those who understood the solid basis of Southern development would have dared to hope that it would pass without serious troubles in its mercantile and manufacturing interests. Its new growth had not had time to accumulate financial strength, and it was but reasonable to suppose that such a panic would be to it what a killing frost is to the tender plants that the warmth of a few premature spring days has brought forth.

But the South stood the test better even than any other section. Its furnaces continued in blast and met every reduction in price of iron; its cotton mills were crowded to the limit of their machinery; its woodworking industry was active and prosperous; its banks continued to pay good dividends, and its railroads, except those already ruined by Wall Street manipulations, increased their traffic and continued to build new branches to open new territory, and failures were much fewer than might reasonably have been looked for. Of course the organization of many new enterprises could not be expected. The South had faced the worst conditions that could be brought upon it from a world-wide panic and it had proved that its business interests were on a solid basis and that its industrial development had been legitimate.

But in an evil hour there came a danger greater than any financial panic could create. Fanaticism run mad had fathered a measure which the more conservative members of the party in which it had originated denounced as a menace to the peace of the whole country. The Force Bill became an issue in politics, and while there was a possibility of such a bill being enacted and inevitably bringing on a perpetual race war throughout the South, a revival in business and in the investment of outside money in that section was almost hopeless. The Force Bill is now forever dead and the South has the assurance of friendly national legislation.

Thus the New Year opens with the South freed from the danger of the Force Bill, and its people therefore more enthusiastic over their country than for four years, with its record of stability through the panic known to all, with the business world fully convinced by the results of the past that its advantages for manufacturing are not equalled elsewhere in this country or in Europe, with the tendency of capital turned Southward and with "every prospect pleasing." These are conditions more favorable than the South has ever enjoyed before, because its position has been strengthened by the victories which it has won.

The low price of cotton due to overproduction in 1890 and 1891 has taught the Southern farmer to be more self-supporting and to raise more

grain and provisions; it also necessitated great economy, as advance money on the crop could not be had last spring as freely as before prices dropped so low. Naturally the result has been that this season's crop has been raised at a smaller cost than any other crop since the war. The yield having been much less than for the two preceding years, prices have materially advanced, adding, since September 1, from \$75,000,000 to \$100,000,000 to the value of the crop, which means a decided improvement in the financial condition, not only of the farmers, but of all business interests. With so large a decrease in the crop, the world's surplus stock of cotton, which for two years has depressed the markets, will doubtless be nearly wiped out, or at least reduced to normal conditions, thus clearing the way for profitable prices for the crop of 1893.

The extreme depression in iron during 1891 and 1892 forced upon Southern iron makers the necessity for strict economy and for a study of the best facilities for producing iron at a minimum cost. Prices for pig iron that would have bankrupted any Southern iron company a few years ago, can now be met with some margin of profit left. Standing on this rock-bottom basis of cheap production and better iron, the furnaces of this section now see before them better prospects for an increasing demand and some advance in prices than they have been able to see for two years or more. The outlook is certainly encouraging for Southern iron interests.

Even during the general depression in business there has been no depression in the coal trade of the South. The demand has grown so steadily that an advance in production from 6,000,000 tons ten years ago to over 25,000,000 tons has found a ready market, and the output can be increased as rapidly in the future as in the past. New markets are being opened for Southern coal, and contracts recently made assure a very large consumption in the West. As extensive as have been the coal mining developments of the South during the last few years, they will be largely exceeded by the operations of the near future. Many of the leading financiers of the country have been making very heavy investments in Southern coal properties, even during the dull period which commenced with the Baring failure, and their mining operations will be on a very large scale.

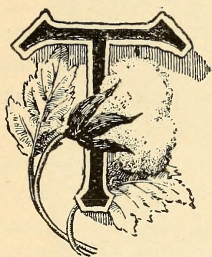
The solid basis on which the agricultural, the iron and the coal interests now rest, and the promising outlook before them are duplicated in all other branches of business in the South. Everything is on a good foundation. The whole South, enthused with the certainty of freedom from political troubles, strengthened in all its business operations by the experience of the past, with more powerful financial influences working in its favor than ever before, starts the new year with the assurance that it is entering upon a period of greater progress and prosperity than it has enjoyed for thirty years.

Ten years ago the South's agricultural, manufacturing and mining products aggregated in value about \$1,200,000,000; now they are about \$2,100,000,000 and are annually increasing. The increase in population during that period was only about 18 to 20 per cent., as the South has no heavy immigration to swell its growth. So practically the same people who ten years ago were producing \$1,200,000,000 a year are now, by reason of being more fully employed, able to turn out nearly \$1,000,000,000 a year more than they were then doing. They have doubled their railroad mileage and trebled and quadrupled the traffic; they have more than quadrupled their iron and coal production, trebled their cotton mills, added \$2,000,000,000 to the assessed value of their property, doubled their banking capital, and more than doubled their manufacturing interests. This is what they have done in ten years. Those who live to see another ten-year period ended, and who compare the growth of the South during it with what has been done in the last ten years, will be astonished at the difference, so great will be the progress of the future.

With an abiding faith in the truth of the statement which the writer has so often made, that the South, taken as a whole, is the best country in the world, with the greatest possibilities of wealth, I have never doubted that the time would come when that section would be the center of the most active industrial movements of this or any other country. That time is coming.

THE KINGDOM OF COTTON.

By Harry S. Fleming.



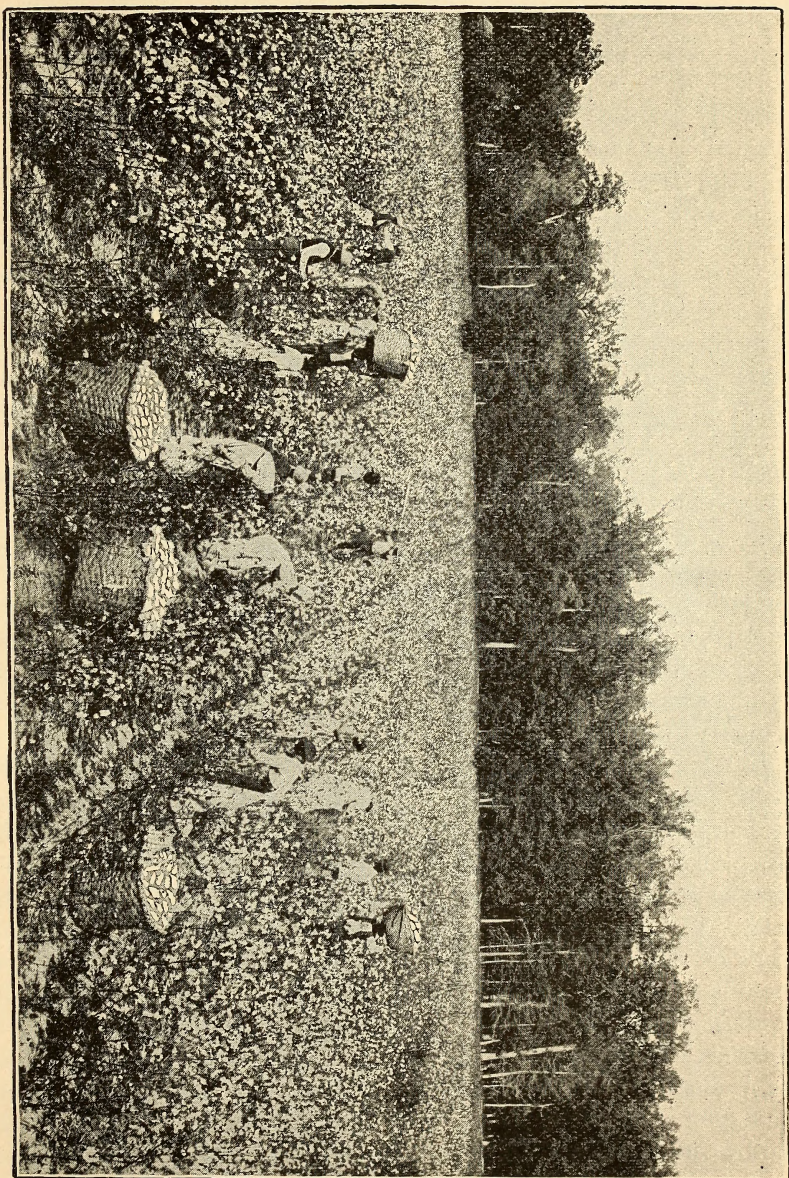
THE time of year when a cotton plantation has on its most picturesque dress is from September to December, when the bolls are open and all hands are busy picking. True, in June, when the flowers open, the scene is very beautiful, with the green leaves of the plant as a background for the red and white blossoms, but in fall, when the field is a stretch of snowy white cotton, with only a faint setting of green leaves, with the busy figures of the pickers moving along the rows, the wagon-loads of seed cotton going to the ginhouse, the subdued hum of the gin and the groaning of the press as it releases a bale—this is the season when plantation life is full of movement and animation not to be found in any other class of agricultural pursuit. In early spring, when ground is first broken, and at planting time, while the scene is a busy one, it does not differ in any way from similar work on any other farm, and is as drearily monotonous as can be imagined. The hands, almost invariably negroes, start out by “sun up” with their mule or team, this depending on the size of the plot they cultivate. They first loosen the ground, turning last year’s stalks under, if it was not done after the field was stripped. Later on, in March or April, according to the weather, the seed is planted by hand or drills, generally the latter, dropping them about twenty inches apart in rows three feet from each other. These early spring days of bright, warm sunshine, with the robins singing their cheery note of welcome to the approaching season, are marred by intermittent spells of cold rainy weather, which, with the softening of the ground as the frost comes out, give unlimited and omnipresent mud, and this of a persistently sticky kind, only found on bottom lands, and which has its highest type in the “buckshot” soil along the Mississippi river.

Within a week or ten days after planting, the sprout appears above ground, and if the weather be favorable, warm and moist, it will grow steadily, commencing to flower in June, and after that the bolls, which have

their commencement in the tiny four-sided pod left when the flowers fell off, grow in size until in August they begin to open and the cotton hangs down. During the early growth of the plant it is necessary to cut it to a "stand"—that is, remove from each hill a part of the stalks growing, so that the number will not be so great as to stunt the growth. Until the plant begins to mature in August it is necessary to keep the ground well broken and free from weeds, but after that time it needs no further attention until picking commences. In July and early August plants can frequently be found which show every stage of development—the unopened buds, flowers, small bolls and larger ones from which the cotton is hanging.

When enough cotton is open, generally in early September or in some seasons in August, picking commences and all hands, old and young, male and female, turn out into the field at break of day and pick until dusk. This is an anxious time for the planter. Unless the weather is warm and dry the unopened and partly opened bolls will not mature before frost, and in addition to this, rains will soil and stain the cotton by splashing dirt upon it or causing the dust already deposited on the delicate fibres to cake, and if continued, the wet weather will cause the cotton to rot in the boll. After a rain, even though the cotton is dry, the pickers, for obvious reasons, cannot go into the field unless the ground also has dried. An attempt to walk through this heavy ground while it is wet, and particularly when dragging a heavy cotton bag, would immediately discourage the most enthusiastic advocate of physical culture. Apart from the effort required to overcome the suction created by lifting the foot, so much mud clings to it that the would-be pedestrian instinctively looks over the field to see where the line of fracture occurs.

Practically the only labor employed on plantations is that of negroes, and upon them the planter must depend under all circumstances, and a very poor dependence it is. Without attempting to go into that much discussed and little understood problem, the negro question, it may be said that the average negro is about as reliable as the weather, quite so when it happens to fit into his mood, and less so when it does not. They are improvident to the last degree and procrastinate whenever it is possible. In matters pertaining to their support they are utterly dependent upon white people, and seem to think it the duty of the latter to support them; indeed this idea frequently takes such a strong hold that they will appropriate various moveable things, not considering it as stealing in its moral sense, but merely the pre-emption, redemption of something to which they have a prospective right, that is upon its being cast aside. On the other hand, in carrying out their obligations to their employers, from the most trifling kind to those of importance, they too often appear to be entirely devoid of moral principle. They can hardly be called lazy, for few people can do more fatiguing work,



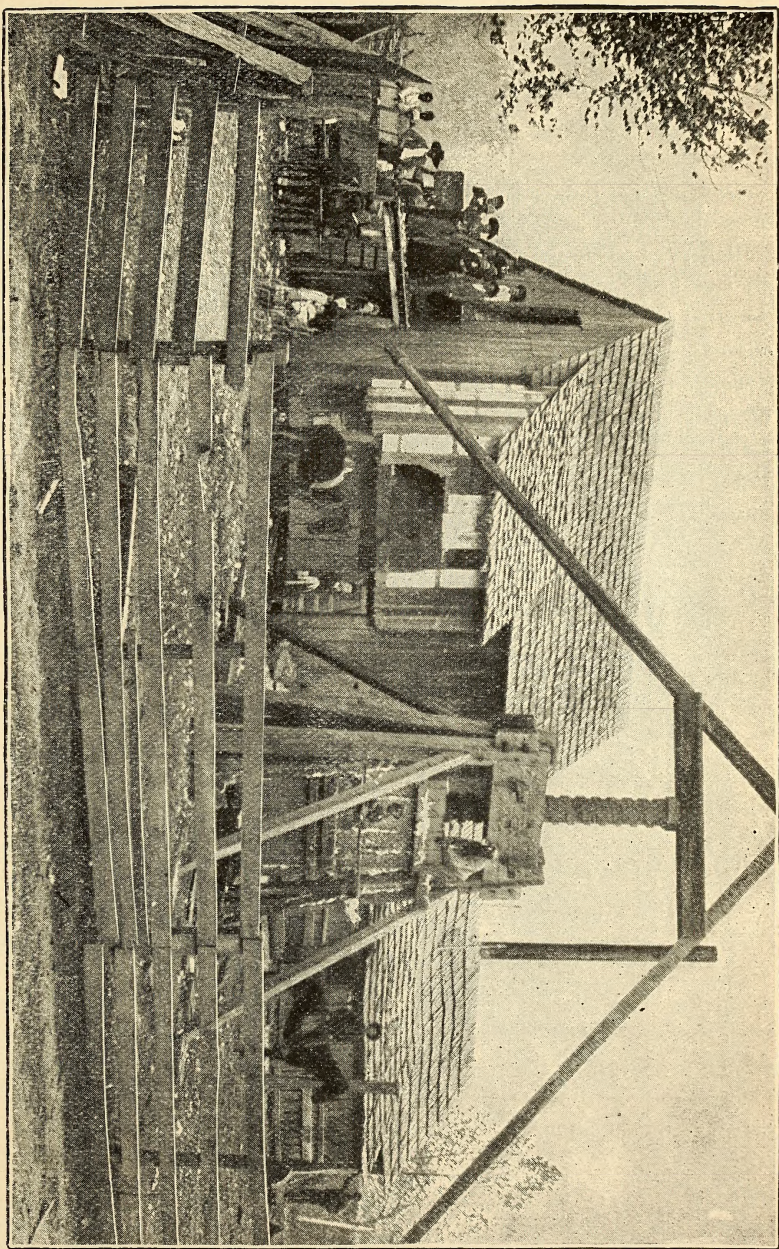
A MISSISSIPPI COTTON FIELD.

but they will not do it unless they have to. With all this they will many times perform services of kindness and assistance in no way obligatory, and from which they expect no return. It is a curious combination, and one not duplicated in any other race. With such labor the planter has many troubles other than those which Providence sends in the shape of weather and insects.

On the majority of large plantations, it is customary to lease small tracts of five, ten or maybe twenty acres, to negro "renters," who cultivate and gather the cotton, drawing their supplies from planting to harvest time from the owner, who also furnishes the necessary farming implements. As the cotton is growing, the planter estimates how many bales it is going to make and allows the renter to draw supplies equal to part of the value of the prospective crop. This works all right if the crop comes up to expectations, but frequently when the indications are that it will fall short, the renter and his family quietly decamp during the night and leave the field for the planter to attend to and pick. When picking time comes, it is so desirable to take advantage of fair weather, that every effort is made to secure a large force of hands to hasten the work. Ordinarily the price paid for picking is fifty to seventy-five cents per hundred pounds seed cotton, but when labor is particularly scarce, this runs up to one dollar. It takes on the average fifteen hundred pounds of seed cotton to make a five-hundred-pound bale of "lint cotton," or cotton ready for the market; consequently at such prices, the planter is paying fifteen dollars per bale for picking, and even under the best circumstances, it costs him eight dollars. This will readily explain why a cotton-picking machine is so universally wished for and particularly when, as in the past season, cotton sold for but thirty-five dollars a bale.

To the uninitiated cotton is cotton, but those who handle it have evolved, partly from their imagination and in smaller part from existing facts, a peculiar and complicated "system of grading," as it is called, which divides the cotton into two prime classes, according to whether it is grown on river bottoms or uplands. These are then subdivided into about twenty-five grades, and each of these is divided again according to its physical condition and appearance. The standard grade upon which prices are based is "middling upland," the highest grade being "fair" and the lowest "ordinary," these two being twelve grades respectively above and below middling. With the grades there is a corresponding difference in value, and the planter quite naturally endeavors to raise such quality as will bring him the largest return. This can be partly accomplished by planting good seed and by care in cultivating, but the soil, weather, care in picking and ginning are the material factors which make or mar the crop.

The influence exerted by the soil and weather is mainly on the yield, length, color and strength of the fibre, while upon the picking depends the

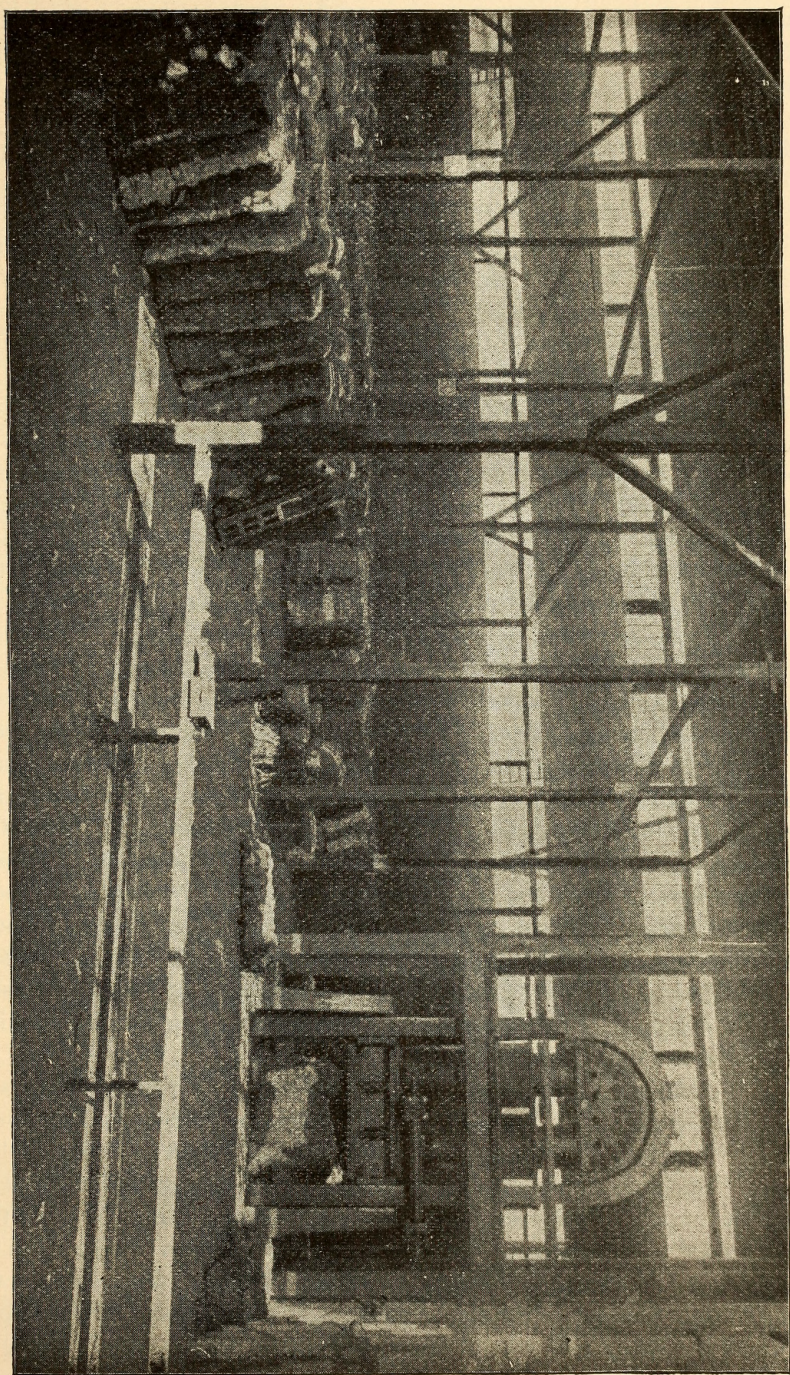


AN OLD TIME PLANTATION COTTON PRESS

amount of foreign matter, dirt, leaves, etc., gathered with the cotton. When the negroes go into the field to pick they carry a long bag hung over the shoulder by a strap of sufficient length to bring the mouth of the bag at the waist. As they pass along the rows they take hold of the cotton, draw it from the shell of the boll and drop it in the bag. In their haste—and carelessness—leaves, twigs and other things are thrown in also. The gin which separates the cotton fibre from the seed to which it clings removes a portion of this “trash,” but not all; how much depends upon the care with which the gin is operated.

It is an interesting sight to watch these pickers at work, and it seems that the hotter the day the more they can accomplish. Dressed “in sundry rags” patched together with less regard to design than in a crazy quilt, often with several spaces yet waiting to be covered, and with an ancient and battered hat to keep off the sun, they pass along the rows talking to each other and oftentimes singing melodies, the tune of which may have had its origin in some old African dance with tom-tom accompaniment. Popular songs of today are taken up, new words fitted to them and the melody just enough changed and modulated by that peculiar syncopation in all negro songs to give it an added charm. Even the little pickaninnies just able to walk will try to copy after their elders. Bareheaded and barelegged, they tie a rag or anything else around their waist and solemnly walk along the rows pulling off leaves, twigs or possibly the empty husk and gravely depositing it where the mouth of the bag should be. Children ten and twelve years old can do service at actual picking, and are provided with small bags, which they fill in a surprisingly short time. It is the happiest, though the busiest, time of year for all. The work, which for six months has yielded them nothing, now begins to bring in money, and while the greater part of it goes to pay for supplies drawn, there are generally enough bright dollars left over to make them feel light at heart.

In the evening when the field wagon takes the last load to the ginhouse, everyone accompanies it to find the weight of what they have sent in during the day. This varies with the “stand,” i. e., the number of opened bolls on a stalk, and the picker. When the stand is good an average hand will pick one hundred to one hundred and fifty pounds, in some cases even two hundred or over. To the hired picker this of course represents only his wages for the day, but to the renter it is the result of the year’s work, and he is consequently anxious as to its value. Each day the weight of cotton received at the gin from different renters is either chalked on the wall or kept in a book where everyone may see it. As the majority of the hands can neither read nor write, it would seem that there would be little difficulty in summing up the weights and preparing their supply account in such way that they would be losers; but anyone who tries it will meet with disappoint-



A MODERN COTTON COMPRESS—MONTGOMERY, ALA.

ment, as they have the excellent memory usually found among illiterate people, and in these matters it seems to be particularly keen. When the final settlement is made, after the crop is all in, it is amusing to see them go over their account. When they cannot read it the planter or his clerk will do so for them, giving the date, name of article purchased and price. For each they have some comment as to the purpose or quality, and at the same time they slowly add the amounts together. Sometimes one will get an idea in his head that he is not being treated fairly, and it needs more talk to convince him that his account is correct than it does to trade horses. If he is not finally convinced, he will generally come out even by borrowing various movable things—turkeys, chickens, pigs or other “miscellany”—during the small hours of the morning, or at least in some other way.

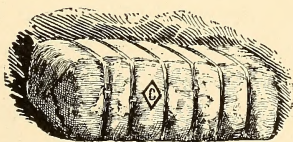
The gin, which separates the seed from the fibre, is an all-important factor in cotton culture. Seed cotton, as it is plucked from the boll, consists of a mass of the fluffy white fibres in which are a number of seed about the size of a bean. In the “long staple” varieties the surface of the seed is comparatively smooth, in some varieties perfectly so, and in such they may be removed by running the cotton between rolls, squeezing the seed out and passing the fibre through. With most cotton, however, and particularly the shorter staple varieties (those with short fibres), these seeds have a rough coat, and in addition a little furze of lint grows on them, so they cannot be separated from the fibre unless picked out. In the early days of cotton growing the use of these varieties was practically prohibited for this reason. In 1794 Eli Whitney, a Massachusetts law student, while visiting friends in South Carolina, was told of the difficulty, and he set to work to overcome it. His first machine was a revolving drum in which were fixed rows of stiff wires, arranged to pass through an upright board on which the cotton was fed, the wires drawing the fibre from the seed through slots in the board. Later this drum was replaced by a number of small circular saws, and the board by an iron grid. As the cotton was drawn through by the saw a revolving brush stripped it from the saw teeth, and in turn a strong blast of air blew it from the brush. With few changes the same form of machine is in general use today.

In the old style ginhouses, as the cotton was blown from the brush, it passed through a box into what was termed the “lint-room,” and here it settled down into a snowy mass of white, looking as soft and beautiful as a cloud. Its imponderability was, however, a great inconvenience, as it was difficult to carry to the press and exceedingly inflammable. To avoid this a “condenser” was invented by some bright mind. This is a box placed in front of the gin, and as the fine cotton lint is blown in it strikes against a wire-gauze screen through which the air passes while the cotton is retained, piling up until it reaches two rolls in the upper part of the box and passing out

from them in a fleecy sheet. Even with this arrangement some very fine particles get into the air and float around, finally settling on rough projections on the walls or ceiling, and then building up in bunches or hanging down in white festoons.

After the cotton passes from the gin it is placed in a press, a piece of heavy bagging being first put in. Then enough cotton to form a bale is packed down and covered with another piece of bagging. The press, which is operated by a long screw driven by the ginhouse engine, is then started, and comes up with a squeaking, grunting and grinding noise until the cotton has been pressed to the proper size. When this point is reached several thin bands of iron are passed around the bale and fastened, after which the press is released, and, with long-drawn groan, drops the bale to the ground.

From the ginhouse the bales of cotton are taken either to the nearest country town and shipped thence to the city, or are shipped direct to the latter point by the planter. Here they are received and stored in warehouses, generally called "cotton sheds," and sampled, graded, inspected by buyers and finally sold. Each bale is then taken to a cotton compress, where a ponderous machine of enormous power squeezes it into a bale little more than one-third of its size on leaving the plantation. At the compress it is loaded on cars and sent to its final destination.



ADVANTAGES OF THE SOUTH IN COTTON MANUFACTURE.

By D. A. Tompkins.

Food, clothing and shelter—these three are the prime needs of the human race.

The soil of the Southern States is capable of producing, in cotton, the raw materials for clothing to supply the entire human race. Cotton clothing for some climates, for at least part of the year, would not be sufficient, but for many parts of the earth it would be sufficient all the year round, and for the remaining parts it would be sufficient for the greater part of the year.

The achievement of having developed the culture of cotton to the extent to demonstrate that in the South alone cotton enough may be produced to clothe the people of the world exhibits a wonderful capability of Southern soil and Southern people. Cotton has been produced in many countries and for centuries in the past, but it has never, within the knowledge of man, occupied so important a place in relation to the affairs of the human race as now. This condition could never have been attained except by an intelligent and progressive people.

Before the civil war little effort was made by these people to manufacture as well as produce cotton. As soon after the war as the political conditions would admit new ventures in business, the manufacture of cotton was begun, and has steadily increased until at the present time the percentage of its increase in the South far exceeds that of New England.

The unfavorable condition existing before the civil war was the institution of slavery. That being removed, most of the conditions at the South are more favorable for the manufacture of cotton than those of any other part of the world, viz :

1. The freight charges on raw material to other points are saved.
2. Profits of dealers in cotton are eliminated.
3. Labor is cheaper than in other parts of the United States.
4. Living is cheaper than in other parts of the United States.
5. The cost of bagging and ties is almost entirely saved by selling these back to the farmer and thus using them over and over until worn out.

6. Saving in cotton lost in transportation in going to other points.

Since the beginning of the new development of cotton manufacture in the South the results justify the statement that cotton goods can be produced cheaper in the Southern part of the United States than in any other part of the world. Many of the new factories in the South have made larger profits than New England or English mills, notwithstanding that time has not yet elapsed for Southern managers and operatives to acquire that degree of skill and knowledge that it is fair to assume will come with increased experience.

In the development of cotton manufacture in the South finer goods are constantly produced with commercial success. Several years ago coarse plaids were the principal colored goods produced in the section about Charlotte, N. C., but within the last few years quite a number of mills have been built that are now making gingham and are running with quite as much success as the mills running on coarser goods.

The success so far attained is sufficient to warrant the belief that, as knowledge and skill in manufacture increase, still finer goods will be produced, until at no very distant day the skill at the South will equal that of the other manufacturing centres, and then all classes of cotton goods may be made cheaper than elsewhere.

The prospect of attaining to this condition holds open to the South the promise of a future prosperity that it is difficult to estimate. The greatest ultimate prosperity will come to the South by two means, viz :

1. The production of cotton cheaper than it can be produced in any other country.

2. The manufacture of cotton goods cheaper than other sections or countries can manufacture them.

The first must be accomplished by improved methods of agriculture and improved methods and appliances for the preparation of cotton for the market. The agricultural methods in the South, while not as improved as those of the wheat-growers of the Northwest, are far more improved than the methods of any other cotton-growing country. The manufacture and use of commercial fertilizers in the South have become enormous. In the South Atlantic cotton-growing States almost every town has sulphuric-acid chambers and chemical works for the production of commercial fertilizers, and in some of the larger Southern cities a number of these works exist, and the capital employed will go into the millions. Almost every cotton-growing State has in operation or is preparing to establish an agricultural college. The methods and appliances for ginning and baling cotton have been completely revolutionized since the abolition of slavery, steam having been substituted for horse-power and mechanical appliances for what formerly required manual labor.

The best prosperity of the cotton-producing part of the United States lies not in the direction of causing cotton to be high-priced, but rather in the direction of the production of cotton so cheap and in such large quantities that the competition of Brazil, Egypt and India will be destroyed. The chief item of cost in producing cotton now is in picking. What the South wants is not small crops and high prices, but the knowledge, skill and appliances to produce large crops at low prices, but yet at a fair profit.

The tendency is all in the direction of accomplishing this. The production of fertilizers is constantly increasing, while the price decreases. Appliances for ginning and baling cotton are being constantly improved, while they are made and sold at less cost. With a good cotton-picker the South could produce 12,000,000 to 15,000,000 bales of cotton, and make as much per pound at five to six cents per pound as it now makes on its 7,000,000 to 9,000,000 bales at seven to ten cents per pound.

Having before it the prospect and the probability of supplying the bulk of the cotton for the world, and being well situated in all respects for the manufacture of cotton, it behooves the Southern States to give every encouragement possible to the production of finished cotton products. We can already produce cotton in large quantities cheaper than any other part of the world. If we can also manufacture it cheaper into merchantable goods, then the future prosperity of the South, founded alone on the production and manufacture of cotton, ought to be as great as any people ought to wish for.

In the Piedmont region of North and South Carolina and in Middle Georgia the manufacture of cotton has developed to important proportions, and investments in the mills have been uniformly satisfactory to the investors. In these sections the development is already sufficient to determine that cotton manufacture is already established not only as a permanent institution, but on a competitive basis as to the other sections of the world. Its further growth is simply a matter of accumulating capital and the acquisition of more widespread knowledge and skill, and these are constantly increasing.

Charlotte, N. C.

GROWTH OF COTTON MANUFACTURING IN THE SOUTH.

The statistics of cotton manufactures issued by the census office show that during the ten years from 1880 to 1890 there was a remarkable development in the cotton manufacturing industries of the United States. In 1880 the total spindles in operation were 10,653,435, and by 1890 this had increased to 14,088,103, a gain of 3,434,668 spindles, or 32.24 per cent. In the South this increase is particularly noticeable. Ranging the different sections in the order of actual increase in spindles, New England leads with 2,104,068 increase since 1880, the Southern States 1,045,176 increase, Middle States 209,334 and Western States 76,090. In the order of the percentage of increase over 1880 the South leads with a gain of 156.5 per cent., the Western States 86.3 per cent., New England States 24.3 per cent. and Middle States 16.5 per cent. Apart from the South the total increase in the country was 23.9 per cent. The increase in the number of looms is in the same proportion, the total for the country in 1890 being 43.9 per cent. more than in 1880. The increase in the South is 173.8 per cent., the West 85.1 per cent., New England 35.4 per cent., and the Middle States 28.9 per cent.

The following table shows the increase in the industry in the Southern States :

SUMMARY.

	1880.	1890.
Number of establishments.....	180	254
Capital invested.....	\$21,976,713	\$61,124,096
Hands employed.....	20,827	41,481
Wages paid.....	\$3,517,115	\$8,951,514
Bales of cotton used.....	233,886	578,844
Cost of all materials.....	\$12,887,078	\$31,076,473
Value of products.....	\$21,038,712	\$46,971,503
Number of spindles.....	667,754	1,712,930
Number of looms.....	14,323	39,231

From this it will be seen that during the ten years \$39,147,383 additional capital has been invested in cotton manufacturing in the South. The number of hands employed has doubled and the wages paid nearly trebled. The cost of the materials used and the value of the product have more than doubled.

The consumption of cotton by Southern mills has increased 344,958 bales, or 147 per cent. This latter is particularly noticeable, as the increase in consumption in the entire country, including the South, is but 43 per cent., and for all other than Southern States only 25 per cent. In other words, there were used in 1890 in this country 688,218 bales of cotton more than in 1880. Of this increase the South used 344,958 bales, and all other sections 343,260 bales.

The following statement shows the quantity and value of the cotton goods manufactured in the South in 1890. In the census tabulation Maryland is grouped with the Middle States, but in the preceding figures it has been included with the Southern States. In this table it is omitted.

SUMMARY OF GOODS MANUFACTURED IN 1890.

	Quantity.	Value.
Plain cloths for printing or converting (sq. yds.).....	23,365,020	\$1,117,409
Brown or bleached sheetings or shirting (sq. yds.).....	250,526,060	12,729,063
Drills, twills and sateens (sq. yds.).....	57,153,833	3,651,159
Ginghams (sq. yds.).....	98,481,246	5,570, 87
Cotton flannels (sq. yds.).....	11,668,951	737,861
Fine or fancy woven fabrics (sq. yds.).....	402,244	37,796
Duck (sq. yds.).....	15,270,658	1,570,917
Ticks, denims and stripes (sq. yds.).....	16,875,016	1,213,206
Bags or bagging.....		1,105,006
Yarns for sale (lbs.).....	67,752,241	11,311,733
Sewing cotton (lbs.).....	684,347	191,835
Twine (lbs.).....	1,787,250	285,649
Batting or wadding (lbs.).....	2,383,961	202,655
Rope (lbs.).....	2,894,406	375,807
Waste (lbs.).....	20,796,367	656,142
All other products.....		757,316
Total value all products.....		\$41,513,711

From this it appears that the principal goods produced in the South are sheetings, ginghams and yarns. Of the first, 26 per cent. of the entire product of the country was made in the South; of the second, 36 per cent. and of the third, 41 per cent. Of cotton rope, the South produced 80 per cent. of the total made in the country.

In the order of capital invested in 1890, Georgia leads, followed in order by South Carolina, North Carolina, Maryland, Virginia, Tennessee, Alabama, Mississippi and Kentucky. In the order of the increase in capital employed from 1880 to 1890 the States stand as follows: Georgia, South Carolina, North Carolina, Maryland, Tennessee, Virginia, Alabama, Kentucky and Mississippi. In the order, however, of the percentage of increase, South Carolina leads with 301 per cent.; Kentucky, 282 per cent.; North Carolina, 277 per cent.; Georgia, 178 per cent.; Tennessee, 155 per cent.; Virginia, 149 per cent.; Alabama, 128 per cent.; Mississippi, 83 per cent., and Maryland, 58 per cent.

The following statements give the details for each State in each census year.

MARYLAND.

	1880.	1890.
No. establishments.....	19	15
Capital invested.....	\$4,600,816	\$7,296,793
Hands employed.....	4,686	4,313
Wages paid.....	\$766,129	\$1,134,445
Bales cotton used.....	51,537	55,026
Cost all materials.....	\$2,887,933	\$3,373,116
Value of products.....	\$4,682,114	\$5,457,792
No. spindles.....	125,706	158,930
No. looms.....	2,425	2,965

VIRGINIA.

	1880.	1890.
No. establishments.....	8	9
Capital invested.....	\$1,190,100	\$2,966,889
Hands employed.....	1,112	2,019
Wages paid.....	\$169,789	\$406,824
Bales cotton used.....	11,461	22,731
Cost all materials.....	\$640,391	\$1,197,234
Value of products.....	\$1,040,962	\$1,732,648
No. spindles.....	44,340	94,294
No. looms.....	1,322	2,517

NORTH CAROLINA.

	1880.	1890.
No. establishments.....	49	91
Capital invested.....	\$2,855,800	\$10,775,134
Hands employed.....	3,343	8,742
Wages paid.....	\$439,959	\$1,646,196
Bales cotton used.....	27,642	114,371
Cost all materials.....	\$1,463,645	\$6,238,352
Value of products.....	\$2,554,482	\$9,563,443
No. spindles.....	92,385	337,786
No. looms.....	1,790	7,254

SOUTH CAROLINA.

	1880.	1890.
No. establishments.....	14	34
Capital invested.....	\$2,776,100	\$11,141,833
Hands employed.....	2,053	8,192
Wages paid.....	\$80,844	1,646,574
Bales cotton used.....	33,024	133,342
Cost all materials.....	\$1,868,300	\$6,816,320
Value of products.....	\$2,895,769	\$9,800,798
No. spindles.....	82,334	332,781
No. looms.....	1,676	8,546

GEORGIA.

	1880.	1890.
No. establishments.....	40	53
Capital invested.....	\$6,348,657	\$17,664,675
Hands employed.....	6,349	10,530
Wages paid.....	\$1,135,184	\$2,366,085
Bales cotton used.....	71,389	145,859
Cost all materials.....	\$4,019,673	\$7,778,026
Value of products.....	\$6,481,894	\$12,035,629
No. spindles.....	198,656	445,452
No. looms.....	4,493	10,459

ALABAMA.

	1880.	1890.
No. establishments.....	16	13
Capital invested.....	\$1,246,300	\$2,853,015
Hands employed.....	1,490	2,137
Wages paid.....	\$239,998	\$447,173
Bales cotton used.....	14,702	26,924
Cost all materials.....	\$783,711	\$1,459,048
Value of products.....	\$1,228,019	\$2,190,771
No. spindles.....	49,432	79,234
No. looms.....	863	1,692

MISSISSIPPI.

	1880.	1890.
No. establishments.....	8	9
Capital invested.....	\$1,122,140	\$2,053,743
Hands employed.....	722	1,184
Wages paid.....	\$133,214	\$290,951
Bales cotton used.....	6,411	17,366
Cost all materials.....	\$337,149	\$871,970
Value of products.....	\$679,093	\$1,333,398
No. spindles.....	18,568	57,004
No. looms.....	644	1,352

KENTUCKY.

	1880.	1890.
No. establishments.....	3	5
Capital invested.....	\$360,000	\$1,376,132
Hands employed.....	352	834
Wages paid.....	\$63,850	\$189,039
Bales cotton used.....	4,050	11,980
Cost all materials.....	\$253,818	\$643,949
Value of products.....	\$418,286	\$1,000,665
No. spindles.....	9,022	42,942
No. looms.....	73	677

TENNESSEE.

	1880.	1890.
No. establishments.....	16	20
Capital invested.....	\$1,145,600	\$2,928,657
Hands employed.....	1,044	2,174
Wages paid.....	\$161,070	\$495,438
Bales cotton used.....	10,436	33,114
Cost all materials.....	\$553,761	\$1,765,062
Value of products.....	\$874,717	\$2,507,719
No. spindles.....	35,736	97,521
No. looms.....	818	2,043

ALL OTHER SOUTHERN STATES.

	1880.	1890.
No. establishments.....	7	5
Capital invested.....	\$331,000	\$2,067,225
Hands employed.....	276	1,350
Wages paid.....	\$27,377	\$328,759
Bales cotton used.....	2,634	18,131
Cost all materials.....	\$138,697	\$932,896
Value of products.....	\$183,376	\$1,348,637
No. spindles.....	11,575	66,980
No. looms.....	219	1,726

THE NICARAGUA CANAL AND THE SOUTH.

By John L. Williams.

The language of Senator Morgan, concluding his great speech before the last Senate in support of the bill for the great canal from the Committee on Foreign Relations, ought to arouse every man in the South to work for the speedy completion of the great transit. The committee was composed of the ablest lawyers in the Senate, and they unanimously recommended it. Senator Morgan concluded his argument with the following words :

"If I could serve in the Senate for a century, and in every moment could be endued with the wisdom of Solomon, I could find no opportunity to bless the people of Alabama so greatly as this, which is thrust upon me with a command that I do not dare to disobey."

The people of Alabama have shown their confidence in their Senator's words, through their own Senate and House of Delegates, by sending a weighty memorial to Congress, reciting many strong reasons and urging the government speedily to complete the canal.

It is enough for the States of the South to look at the map of North and South America. They see themselves within a comparatively short distance of the Pacific Ocean, of Western South America and our own Pacific States. But a great wall, a strong door, bars them off. Their nearness avails them nothing. The Pacific countries offer a world of wealth to the Southern States, and they are their own natural and peculiar market. But we Americans of this nineteenth century must bow before this obstacle that is in our way, surrender all our advantages, because we "dare not let 'I will do' wait upon 'I should.' " We must be sorry we cannot open these gates which our industry and courage could easily surmount. We must sail away out into the Atlantic and follow for thousands of miles the ships of Europeans 3,000 miles farther off, and, coming in after them, be satisfied with one-twentieth of a trade which we should monopolize. The map is the object lesson and argument that no man in his senses can resist—the map and the ships and trade of America following in the trail and taking the leavings of England, Germany and France, because we have not the courage or enterprise to open our way by the route that nature so plainly shows across the Isthmus.

Let us of the South look at the Mediterranean. What the Straits of Gibraltar are to the countries of Europe and Africa, the Nicaragua Canal will be to the States of the South. It will open the gates, level the obstacle that stands between us and our dominion. It puts the Pacific ocean at our doors, and makes its best countries our near neighbors. Our own Pacific States are starving for our coal. Along their coast it brings near \$15 per ton. We of the South are craving a market for our coal. Western South America, Chili, Peru, etc., are a magnificent market for all that we manufacture. And we want what they produce. Now we have a small fraction of their trade.

Now our cotton goes to Liverpool, and thence to China and Japan. And these two great and populous countries want our cotton, and they want our iron and iron manufactures too. But we can only follow the old countries. O! what a shame is it to us! that we have not, ere this, cut through this way. It will be an honor to our country to open the way; but attended with profound regret that we should have delayed so long about it.

President Harrison is right. It is amazing that any man should be found to stand in the way of the immediate finishing of this great work. Every part of the country, North, South, East and West, will feel the great benefit of the canal. New York will in a few years become the settling centre of the world. But we of the South will be the first to feel the immense advantages of an open Pacific doorway, and of the markets of the whole world at our doors. Our Southern ports will be depots for the immense wealth that is behind them of agriculture and manufacture, and the coaling and trading stations for the ships of all nations, as far beyond Tyre and Corinth and Florence as American enterprise and genius are beyond and above all that has gone before them.

The canal has been asked for by all Chambers of Commerce of the country. And the very best and ablest men of the land have commended it, the most intelligent and best being the most enthusiastic. Must we be met by the fear that the government cannot take care of itself; that we are such a nation of swindlers that we dare not enter upon a great undertaking. The plea and opposition are no honor to those who urge them. We have honest and able and patriotic men who can and will make the work as honorable in its management as it will be glorious in its achievement and its results. So far I am satisfied that no great public enterprise in America has had for its managers and patrons men so distinguished for integrity, energy and skill, both in its financial and scientific departments.

After years of investigation and the most exhaustive study by the officers of the government, including not less than ten special expeditions, costing hundreds of thousands of dollars; after the practicability of the enterprise has been demonstrated and made plain by private men with their own means, the building, control and ownership are offered to the government

in the most satisfactory shape and on the most liberal terms, compensating those who have risked their means by a small percentage of the possible profit in the shape of stock, the control of the company to be evenly divided between the two political parties. At this point we are to plead public villainy, a want of virtue among our best men, as our excuse for not entering upon the greatest and most promising undertaking that was ever offered to a people. Such an objection to our government undertaking the work is close to an insult to each and every one of our public representatives and officers, and to the whole American people.

SOUTHERN BUILDINGS AT THE WORLD'S FAIR.

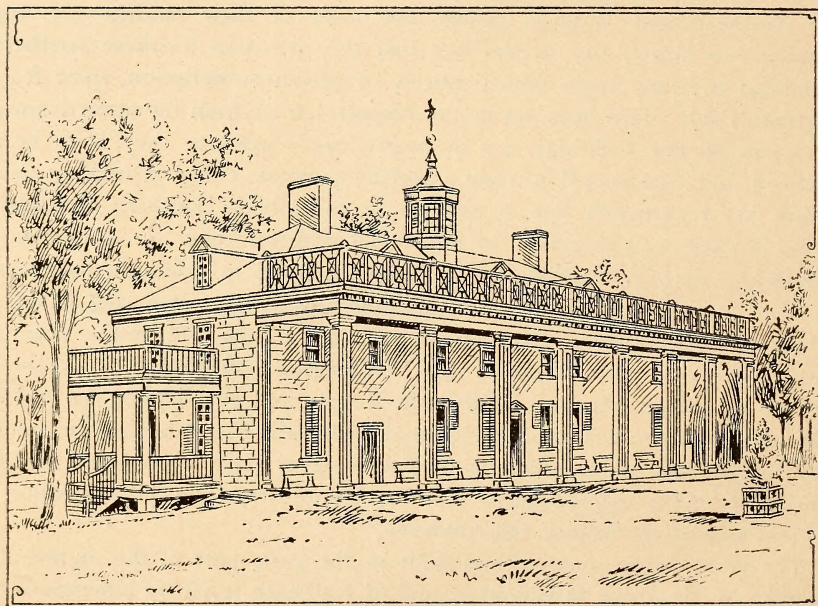
The group of State buildings upon the grounds of the World's Columbian Exposition in Chicago will contain several noteworthy specimens of work by Southern architects, both in the shape of original designs of typical Southern character and in the reproduction of Southern buildings that claim attention because of their historic interest. These buildings lack the pretentious proportions and elegance of some of the structures erected by Northern and Western States, but most of their modest size and character is largely due to the fact that the provision for these Southern buildings is being made almost entirely by private subscription, apart from legislative aid. This does not in any respect detract from the attractiveness or value of the buildings, for in nearly every instance they have been planned and constructed to meet a specific purpose, either in making provision for a particular line of exhibits or to embody Southern characteristics in their architecture. In nearly all respects they are distinctively Southern, being the embodiment of Southern ideas in Southern materials.

The building that will be of the greatest historic interest among all those which will make up the exposition city in Jackson Park, will be the Virginia headquarters, a reproduction of the Washington mansion at Mt. Vernon. Of the thousands who have visited Mt. Vernon and gazed upon the stately old mansion there will probably be many who will recognize the fac-simile at Chicago, and other thousands who may never have opportunity to visit the home of the nation's father will be able to carry from the exposition a correct idea of the historic old residence.

The Washington mansion was built in the early part of the eighteenth century by Lawrence Washington, and at his death it fell by inheritance to George, his brother. The place was named after Admiral Vernon, under whom Lawrence Washington served in the West Indies. When George Washington came into possession of the property the mansion house stood alone. Wings, now called "dependencies," were afterwards added to it by him, and the estate was much enlarged and otherwise embellished. Most of his life from boyhood was spent here, and everything observable in the arrangement of lawns, shrubbery, gardens, buildings, etc., are suggestive that, though this great man was soldier, statesman and financier, he still found time to devote some part of his active life to the ornate and beautiful. George Washington bequeathed the property at his death to Bushrod Washington, from whom it passed to John A. Washington, and by him the

mansion and 200 acres of land were sold in 1858 to the Ladies' Mount Vernon Memorial Association. At that time the property was rapidly falling into decay and ruin, but by this organization it has been restored and is now kept in a manner exactly suited to its historic associations.

The mansion proper is a wooden structure, two main stories in height, with a finished attic and dormer windows. It is built on a substantial brick foundation. The chimneys are large, made of brick and are triangular in shape, with fireplaces in the corners of the rooms they serve. The weatherboarding or siding is made of beveled boards ten inches in width, one and a half inches in thickness, tongued and grooved and



MT. VERNON: THE VIRGINIA STATE BUILDING.

carefully fitted together. The boards are cut across with leveled groove so as to represent a paneled wall. The length of the building is ninety-four feet, and the width thirty-two feet; height of first story ten feet, nine inches; second story, seven feet, eleven inches; attic, six feet, nine inches.

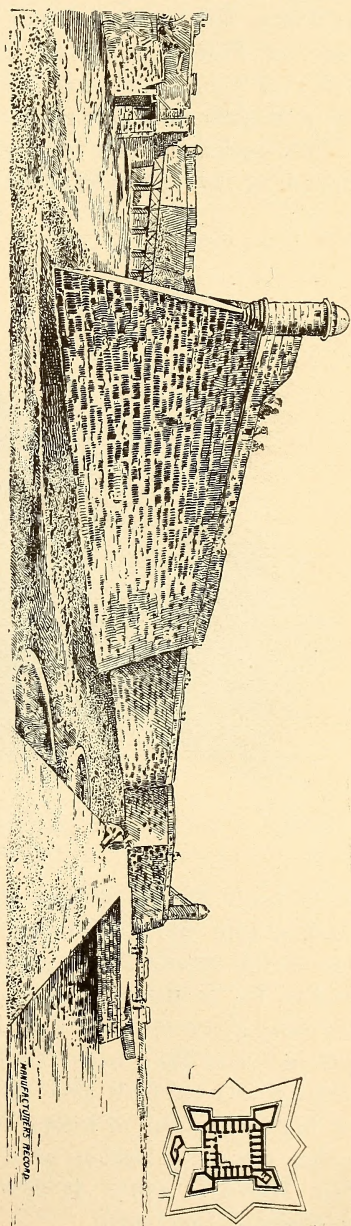
The rooms, some seventeen or eighteen in number, vary in size from mere closets to seventeen by sixteen feet, except the banquet hall, which is a large compartment, thirty-one by twenty-three feet, and about eighteen feet high. The lower hallway is ample in size and elaborately molded and carved. The carving here and in some of the rooms is a marvel of patient

work by the builders of that time. The exterior of the building presents to the river front an open colonnade running its whole length. The columns are slender and square, slightly tapering from floor to eaves of the house, with nearly plain frieze surmounted by open-work balustrade. The roof is crowned by an octagon tower.

The Mount Vernon Memorial Association has undertaken the work of raising the funds required for the reproduction of the mansion in Chicago. Handsomely engraved certificates containing a picture of the building are being sold, and the proceeds will be used for the work. The plans and specifications for the work have been prepared by Captain Edgerton Rogers, of Richmond. The construction is being done by Holtzclaw Bros., of Hampton, Va., and Washington, D. C., who took the contract at \$14,450. The building will be ready about March 1, 1893. Much of the interior work will be difficult and costly to reproduce, but so far as it is possible this will be done. It is proposed to make the large banquet hall a general assembly-room. In the library will be gathered books by Virginia authors, and paintings, and in other rooms will be placed such exhibits as may be collected in the departments of fine arts, archæology, etc.

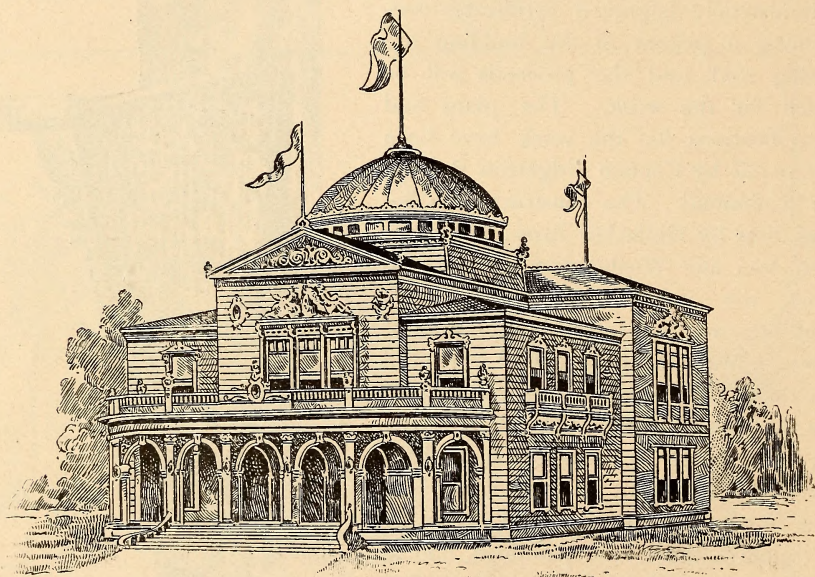
Florida chose an unique design for a State building which is as striking as it is original and historic. Few of the State buildings on the World's Fair grounds have attracted so much attention during construction as the reproduction of old Fort Marion, St. Augustine's remarkable Spanish fortress, which will serve as the Florida headquarters during the exposition. This structure will probably outrank any other building

OLD FORT MARION: THE FLORIDA STATE BUILDING.



at Chicago in the antiquity of its historic interest. St. Augustine, Fla., and Santa Fé, New Mexico, are the oldest towns in North America, and the history of St. Augustine is the history of Fort Marion. The old fort has figured in the stirring events of three centuries. It was called by the Spaniards San Juan de Piños, San Augustin, San Marco, and by the English St. Mark, the name of Fort Marion being given by the United States Government in honor of General Francis Marion, of Revolutionary fame, in 1825, when the peninsular came into the Union.

This ancient fortress witnessed the struggles between the Spanish and French for the possession of the river of Dolphins, the revengeful destruction

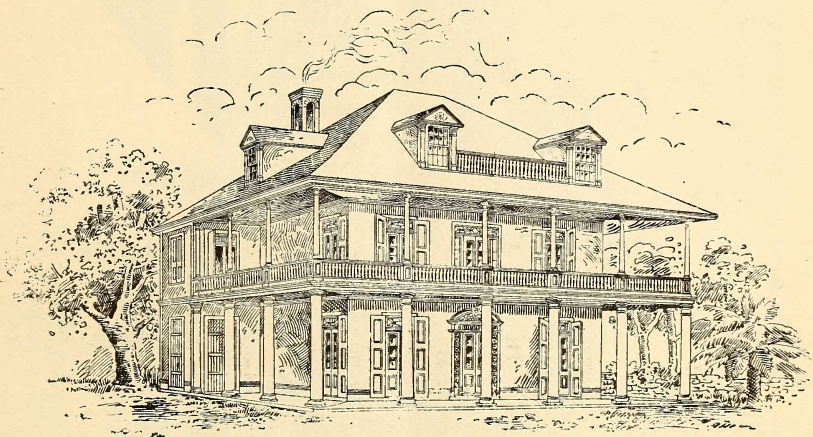


MANUFACTURERS RECORD

THE ARKANSAS STATE BUILDING.

of the early Spanish settlement by the English Sea-king Drake, the bitter warfare with the English colonists of South Carolina and Georgia under Governors Moore and Oglethorpe, and lastly the fierce ravages of the Indian foe in the Seminole war. Its walls have sheltered half-starved Spanish garrisons, have kept in misery the Indian slave and the English prisoner, and have been the home of the convict. The fortress is in all respects a castle built after the style of the middle ages. After a century of toil by an army of troops, bands of Indian captives, slaves, convicts and exiles, the great bastions were finally completed under the name of Fort San Marco in 1765. It then required an armament of 100 guns and a garrison of 1,000 men.

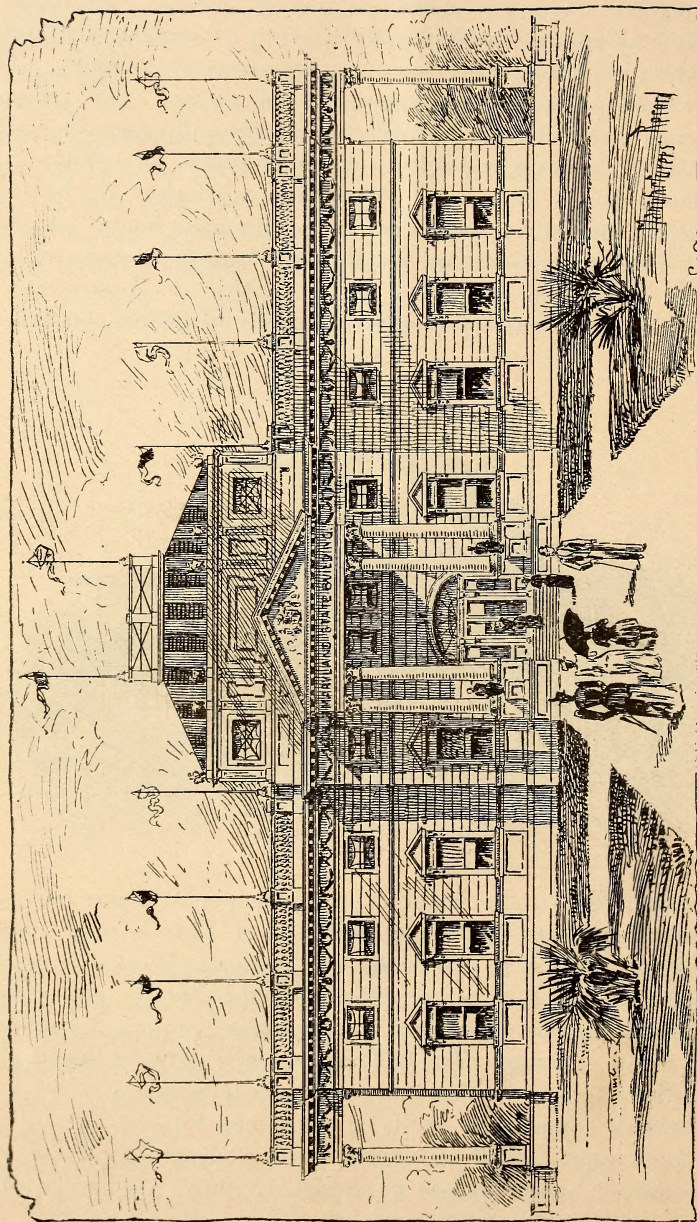
The form of the old fortress is admirably adapted for a grand display of Florida's peculiar and varied resources and attractions. Its moat and ramparts will afford an opportunity for a series of hanging and sunken gardens, which will form object lessons of great interest to visitors. There will be produced miniature cotton, sugar, rice and tobacco fields, pineapple, orange, lemon, lime and other tropical fruit groves and vegetable gardens. The interior of the walls will form a series of rooms for exhibits, headquarters, meetings and other uses. All of these apartments will be beautifully finished in Florida's native woods to show the great lumber interests of the State. The interior courtyard will be made attractive by placing there transplanted palms and fruit trees. The expense of constructing this historic exhibition building has been borne entirely by private contributions.



THE LOUISIANA STATE BUILDING.

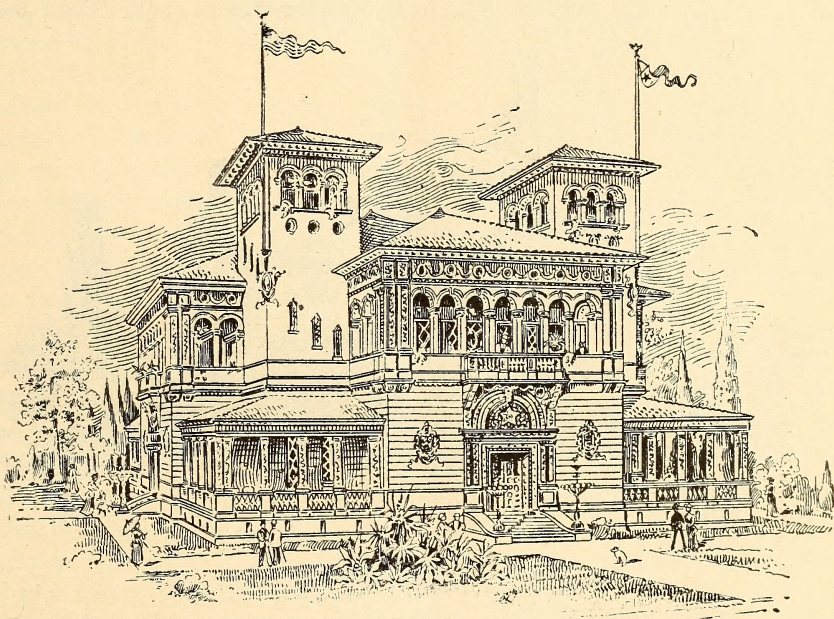
To a woman belongs the honor of designing the Arkansas building at the World's Fair, Miss Jean Loughborough, of Little Rock, being the architect whose plans were chosen by the Arkansas World's Fair Association. The building is an ornate structure in the French rococo style of architecture, an elliptical piazza and a glass dome relieving the solidity of the nearly square structure. The building proper is sixty feet deep by eight feet in length, rather smaller than many of the State buildings, but of a style that is likely to compensate by its attractiveness for the lack of more imposing proportions. Staff constitutes the chief material of construction, the cheapness of which makes it possible to enrich the facade of the structure at a moderate cost.

The main entrance to the building is through the elliptical and highly ornate piazza. From this a triple arcade leads into the main hall, which



THE MARYLAND STATE BUILDING.

extends the whole height of the building, rising to a circular dome thirty feet in diameter. The hall itself is thirty by fifty feet, the purpose being to use it as a general gathering place for Arkansas visitors at the fair. A suggested feature of the plan is the construction in this hall of an electric fountain, composed of different colored crystals such as are found at the Hot Springs and elsewhere in Arkansas. At the second story a broad gallery encircles the hall, affording entrance to various rooms and offices corresponding to similar apartments on the first floor. The rear portion of the building is devoted chiefly to the assembly hall, in which, as well as in the entrance hall, the State exhibits will be placed. This apartment is sixty-five feet in length



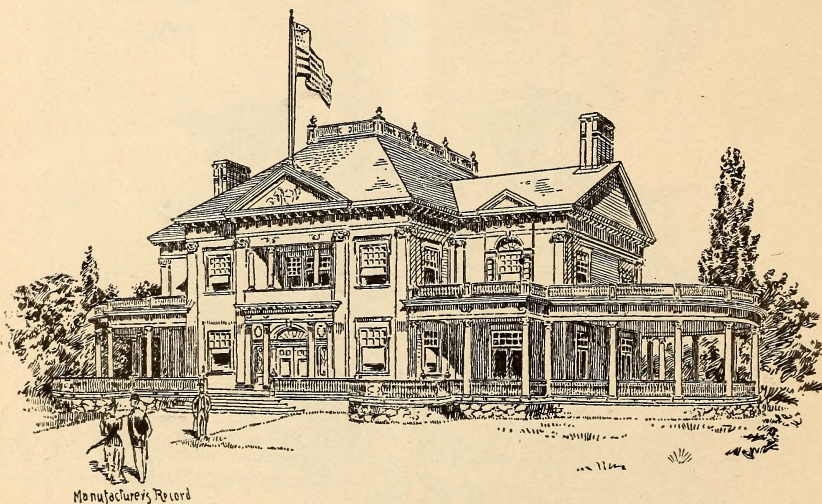
THE TEXAS STATE BUILDING.

by thirty feet wide, and rises a story and a half. It is to be tastefully decorated and provided with a platform for speakers' use. The Arkansas legislature having failed to make any appropriation for World's Fair purposes, the cost of this building and all other expenses are being defrayed by funds raised by private subscription, in the securing of which the women of the State have taken a very important part.

The Louisiana State building will be a reproduction of a typical old style plantation mansion. The design is simple but pleasing, and has a significance apart from mere architectural attractiveness. The building will be a frame structure, with the lower story cemented and ornamented in

characteristic style. The tall columns and broad galleries, the tiny panes of glass in the transoms, will all be readily recognized as distinguishing and faithfully-preserved features of the famous plantation mansions of the good old days.

On the first floor will be a large exhibition-room, with reception-rooms for gentlemen and ladies, a gentlemen's sitting-room and dining-room, besides a stair-hall, which is a wide room of itself. Almost the entire floor space of the second story is devoted to exhibition-rooms, there being four of them, while a snug corner is set aside as a ladies' sitting-room. Ample provision is made for light and ventilation, and the long galleries, which are ten feet wide, will make the Louisiana building one of the cosiest spots at the great exposition. The building will front on Fifty-seventh Street and



THE WEST VIRGINIA STATE BUILDING.

will be between the Missouri and Minnesota buildings. The plans were prepared by Messrs. Sully & Toledano, of New Orleans, and the work of construction is being done by Messrs. Murdoch, Campbell & Co., the cost of the building being \$14,500.

The construction of this building has been undertaken independent of State aid, the funds being provided by private subscription through the efforts of the World's Columbian Association of Louisiana, Limited, in which many prominent citizens have interested themselves, and to which the ladies of Louisiana have extended efficient assistance.

The Maryland building is of the free classic style of architecture. The exterior is made of staff, and the interior is finished in white and cream colored paint. There are three handsome entrance porticos with splendid

columns of the Corinthian order of architecture. The rear has a spacious piazza, with deck roof supported by columns also of the Corinthian order. The wings also have deck roofs enclosed by handsome balustrades. The centre part is a belvedere which offers a fine point of vantage for viewing the World's Fair grounds. The centre of the building and the first floor of the interior are occupied by a handsome reception hall and bureau of information and grand stairway, all treated in the colonial style of rather rich details with delicate lines. To the right of this hall one enters an exhibition hall twenty-five by twenty-six feet, set aside for womans' work, with ladies' parlor containing a handsome mantel. On the left is the general exhibition hall, thirty-six by twenty-six feet; two stories in height with a gallery at the second floor level. The balance of the second story is taken up by the main stairs, the stairs to the third story and three handsome exhibition parlors, thirteen by seventeen feet each, communicating by means of large folding doors and containing handsome mantels; the office, eight by sixteen feet; the reading-room, twenty by twenty-six feet; smoking-room, eleven by sixteen feet, containing colonial mantels, and an adjoining toilet-room. The third story contains the janitor's apartments, a stairway to the belvedere and doors leading to the deck roofs of wings. The plumbing embodies all of the latest improved sanitary appliances.

The noteworthy points of the exterior are a beautifully modelled coat of arms of the State of Maryland placed in the tympanum of the gable of main portico, and the elaborate belt cornices with enriched members and decorated frieze of garlands and wreaths. The building was designed by Baldwin & Pennington, of Baltimore, and was erected by F. Mertens' Sons, of Cumberland. The extreme dimensions of the building, including porticos are, length 142 feet, and depth seventy-eight feet. The cost was \$20,000.

The Texas building is being provided entirely by the women of that State. Plans have been prepared by Mr. J. Reily Gordon, of San Antonio, Texas, for a structure of considerable architectural grace and beauty. The building will contain an assembly-room fifty-six feet square, twenty-eight feet high, provided with large art glass skylight in the ceiling with a mosaic Texas star in centre. The rostrum, ante-rooms, etc., will be finished in the natural woods of Texas.

The administration wing will contain rooms for a bureau of information, register, messenger, telephone, telegraph, secretary, president, directors, Texas Press Association headquarters, lady secretary, president and executive committee, lobby, historical museum and library; also toilet-rooms, county collective exhibits, etc. The main entrances are through vestibules, flanked on either side by niches and colonnades. The main vestibules terminate in a large auditorium, from which entrance is afforded to the various working departments above mentioned.

In the treatment of the design the architect has not deflected from the history of the Lone Star State, which from the initial has been marked by a Spanish tinge whose architectural feeling and beautiful botanical effects lay down a chain of thought far too beautiful to forsake for that of this modern day. Therefore, the architect has designed the building, colonnades, grounds, fountains, foliage, etc., to present a Spanish vista, a bower of beautiful Texas foliage, comprising the banana, palm, magnolia, pomegranate, Spanish dagger, orange and many rare tropical plants common to Texas.

The building will cost \$40,000, the contract having been awarded to Messrs. W. Harley & Son, of Chicago, Ill.

INVESTMENTS IN THE SOUTH.

By R. B. Sperry.

Prudent investors look to security before income, but, all else being equal, give preference to that security yielding the largest income. The locality furnishing the best security is that possessing diversified industries and surroundings capable of development and ample law for the encouragement and protection of invested capital.

In my opinion, based on close personal investigation, many parts of the South meet this requirement, notably the southwestern part of Virginia, all of West Virginia, North Carolina, Northern South Carolina, Georgia, Tennessee and Alabama. In all of these States the pernicious system of voting State aid to corporations has been abandoned and is now prohibited by constitutional provisions. In most of them municipalities are likewise prohibited, and where not so prohibited the evil is reduced to a minimum. In like manner the creation of debt for any purpose is limited either by constitutional or legislative restrictions.

The argument most freely used against the sections I name is repudiation. I admit the force of it. Corporate debts like any other debts ought to be paid. The sovereignty of a State ought never to be invoked against her creditors.

The faith and credit of municipalities ought always to be preserved, no matter how obtained. Repudiation anywhere is hateful, but no more so South than West. If the sections I name have repudiated, so have those in Indiana, Illinois, Michigan, Minnesota, Missouri and Kansas. The day of repudiation is over. Wholesome laws and liberal interpretations by our courts have put a stop to it. Assuming, then, that capital is protected in the way I state, will it be secure and profitable? Let any man draw a line around the territory I have named and then consider what it produces, consumes and sells, and what its possibilities are, and the question is answered. Cotton grows at the factory door; coal and iron are mined within the glare of the furnace; acres by the thousand are covered with corn where cotton used to grow; tobacco is grown and manufactured on the spot and exported direct. Railways are opening up virgin pine forests and are dotted with mills supplying their products to every seaport on the Atlantic coast. Fer-

tilizer and oil mills, ice factories and breweries are found in every city of importance. The climate and adaptability of the soil are encouraging new methods, new people and new money in its development. Improved machinery and skilled labor are having a telling effect, and it won't be long before the cotton factories of New England, the furnaces of Pennsylvania and the granaries of the West will realize it.

I suppose that nobody will ascribe abnormal prosperity in any section or in any line of trade for the year just past. Certainly no one can say, for this period at least, that the South has been boomed, yet the statistics of her progress in the face of adverse conditions are significant. Her output of pig iron increased 245,330 tons, of coal 986,335 tons, of lumber 230,314,573 feet, of phosphates 79,648 tons; her export trade outside of cotton increased \$6,000,000, her railway mileage increased 1053 miles, the taxable value of her property increased \$66,339,807, the cotton consumed by her own mills increased 79,164 bales, and there was added to her banking capital \$2,680,000. If the large majority of her railways are in receivers' hands, they are at least out of the hands of the speculators, and are being shaped to run on business principles and in the interest of security holders.

These figures speak eloquently for the energy, progress and stability of the South, and should commend themselves to the consideration of intending investors.

Baltimore.

THE UPPER SOUTH.

By M. V. Richards.

A geographical division with Mason and Dixon's line for the northern boundary and the south line of Virginia for the southern and the Ohio river on the west comprises one of the richest sections of the United States, which is equivalent to saying of the world. The great Chesapeake bay, in which all the navies of the world could find a safe anchorage, and the ocean on the east and the mountains on the west give this section a climate unsurpassed in the world for genialty and health, and make it one of the most desirable regions for residence purposes to be found anywhere at all seasons of the year. It is neither tropical in summer nor arctic in winter, but has a temperature and climate of a golden mean between the two extremes, and in which outdoor avocations can be carried on with safety and comfort every day in the year. It has an abundant rainfall and a length of season in which all the grains, grasses, fruits, vines and vegetables incident to the temperate zone can be successfully cultivated. There are no serious winds such as sweep the plains of many sections of the West, blighting the crops in a single day with their scorching breath, nor the icy breath of the blizzard's blast, which reduces the variety and range of agriculture to a comparatively small number of crops that can be successfully raised.

Then this section has the advantages of the best markets of the world lying at its very doors in which can be rapidly sold at the highest market rates at all seasons every product of the farmer or herdsman, the orchardist, the dairyman, the truck farmer and all others engaged in raising food products. Indeed the demand for every thing that can be raised in the soil far exceeds the supply, and puts the possibilities of competency, if not of wealth, within the reach of all who are willing to work for it. In this section, so rich in agricultural possibilities, there are millions of acres of lands which can be purchased on the most favorable terms. Springs of clear pure water abound everywhere, and it only needs the hand of industry and enterprise to develop its marvelous resources to make it abound in matchless prosperity.

The question is so frequently asked, whether wheat, corn and oats are profitable crops in the upper Southern States, that we venture to utilize

space sufficient to afford the reader the following information, which should demonstrate conclusively the value of this section for agricultural pursuits.

During the year 1892 there were produced in the States of Maryland, Virginia and West Virginia 53,354,000 bushels of corn, valued at \$27,669,857; 18,885,000 bushels of wheat, valued at \$14,169,900; 10,032,000 bushels of oats, valued at \$4,271,543. The average yield of corn per acre and average price per bushel, was as follows: Maryland, 32.8 bushels, value 45 cents; Virginia, 22.4 bushels, value 53 cents; West Virginia, 31.9 bushels, value 56 cents, while the average yield in Iowa was 34 bushels, valued at only 32 cents per bushel. The average yield of wheat in the State of Maryland was 18.6 bushels per acre, valued at 74 cents per bushel, while in North Dakota, represented to be the greatest wheat-producing State, the average yield was only 14.4 bushels, and the price averaged only 40 cents per bushel. Truck farming is a branch of agriculture that brings excellent returns. We have before us the records kept by a Maryland trucker who realized a net profit of \$3,625 from thirty-five acres. In the Baltimore district about 38,000 acres of land are planted into truck, giving employment to 17,000 people, about 5,000 horses and mules, and yielding a product valued at nearly \$4,000,000.

In addition to their agricultural riches, the three States embraced in this section contain inexhaustible stores of raw material for manufacturing purposes, and the natural facilities for converting them into the finished product at a minimum cost; deposits of every variety of iron ore apparently limitless in extent, mountain after mountain of coal of superior quality, vast tracts of timber suitable for every variety of manufacturing or building purposes, clay banks with material for brick, tile or terra-cotta, glass sand, building stone of the best quality, and many other resources that only need the hand of development to turn them into marvelous wealth.

Then there are water-powers running to waste all over this region, sufficient to furnish the motive power for the world's industries. In addition to all the advantages enumerated, this entire region is fast becoming threaded by railroads, giving it a system of transportation and facilities for travel which, with its river and ocean navigation, bring all parts of the country and the world within easy reach for every business and commercial enterprise.

It is indeed strange that all these numerous advantages should have remained so long undeveloped and unused, and that the tide of immigration should have turned its ceaseless flow westward instead of southward. The causes which made this possible no longer remain; slavery has been wiped out, the old ideas of labor have passed away, the theory that the people of the United States are a purely agricultural people was exploded long ago,

and the country has entered upon an era of manufacturing and commercial enterprises which has placed it in the first rank among the nations of the world. In the light of the new epoch the eyes of the homeseeker, the farmer, the manufacturer and the mechanic are being turned in this direction, and all who have seen the advantages which the writer has briefly outlined have been delighted with the outlook. The natural wealth and possibilities of the upper South need only to be seen to be appreciated, and the advice which the writer would offer to those who for any reason are considering a change in their location is to settle in Maryland, Virginia or West Virginia and become a factor in the great development of this growing and prosperous section. Success and happiness awaits them.

THE CITY OF BALTIMORE, MD.

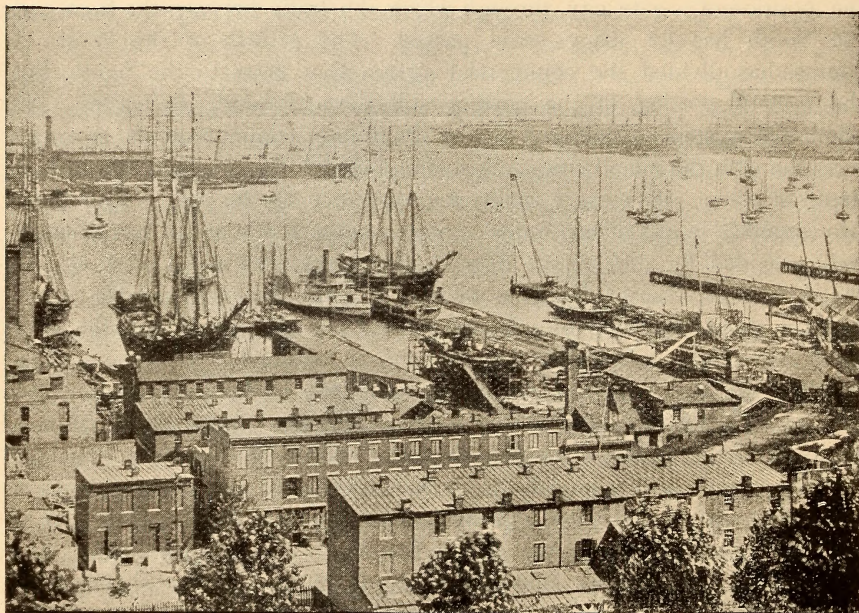
Not every city in the United States can be the greatest city in the country. Not every city in this country possesses the advantages and qualifications essential to leadership among great cities. Not every city in the United States possesses, even in a moderate degree, all of the essentials out of which great cities are made. Every city, however, possesses advantages of one character or another, and many cities combine advantages in such a manner as to lift them into prominence unattainable by less-favored communities. It is not the purpose of this article to demonstrate that Baltimore is, or ought to be, the greatest city in the United States in all respects, but it is desired to show that the city of Baltimore does possess certain peculiar advantages and qualifications which give it an undoubted pre-eminence. The growth of cities usually proceeds regardless of preconceived ideas and theories, and the selection of a site upon which a great city has subsequently grown has been more frequently a matter of mere accident than the result of careful study with regard to all the essential requirements. So nearly universal is this rule that it is of some interest to note that the present city of Baltimore is located upon a site that was chosen for the specific purpose of creating a great city. One hundred and sixty-four years ago the people of Baltimore county, in Maryland, desired the creation of a city and port at some point near the head of the Chesapeake bay, offering greater facilities for commerce than the towns then existing on the bay. For the purpose of fulfilling this desire the Provincial Assembly was petitioned to create a town at a point on the north side of the Patapsco river, fourteen miles from the waters of the Chesapeake bay. This was the beginning of Baltimore. It is apparent, therefore, that Baltimore is one of the cities that exists not by chance, but as the fulfillment of a definite purpose. This community was intended from the start to be a city, and to be a more important city than any of those with which it came in competition at its creation.

An advantageous location was the principal consideration in the founding of Baltimore, and it is still the most important factor in the city's growth and prosperity. Perhaps the first advantage that is apparent in the location lies in the facilities that are offered for commerce. It is as a distributing

centre that Baltimore has always been most prominent, and undoubtedly this will always be a chief characteristic of the city. Situated practically at the head of Chesapeake bay, 180 miles from the coast, it is further inland than any other tidewater city in the country, a factor that offers distinct advantages in the transaction of both foreign and domestic commerce. From Baltimore can be shipped by water to coastwise points the products of a larger inland territory than is tributary to any other of the seaboard cities, and this same element of location also gives the city undoubted advantage in foreign trade, as the transportation by rail from interior points is reduced to a minimum. In its relation to the South, Baltimore stands in the position of a gate city, through which the trade between the East and the South has for many years passed. The growth of the West, of course, has divided the commercial stream that flows to the South, but the eastern portion of the current still flows through Baltimore. An admirable system of railways gives Baltimore communication in every direction with the inland cities. A safe and commodious harbor, with ample depth of water, offers every facility for commerce by the sea. With these two essentials in its rail and water communication, Baltimore is exceptionally well provided for, and enjoys distinct advantages over every other city on the Atlantic seaboard. The harbor of Baltimore has an available water-front of about twelve miles, with an inner basin extending into the very heart of the city, and offering complete shelter for small craft. The original depth of the Patapsco river, which constitutes the harbor, was about seventeen to eighteen feet at mean low water. This was ample for all requirements until the advent of deep-draft ocean steamships, but ever since the city has existed harbor improvements have kept pace with the necessities of commerce, and there is now a channel with a depth of twenty-seven feet at low water extending from the city to the deep waters of Chesapeake bay. The harbor of Baltimore enjoys the advantage of complete shelter from storms, and the ample wharves and terminal accommodations permit the handling of an enormous amount of business, regardless of weather or the seasons.

That these advantages exist not only in theory but in fact is shown by the position of Baltimore in the foreign trade of the country. As an exporting centre Baltimore ranks third, being surpassed only by New York, which stands first, and New Orleans, which occupies second position by virtue of its enormous cotton trade. During the year 1892 the exports of the five leading cities were as follows: New York, \$377,722,983; New Orleans, \$107,684,127; Baltimore, \$91,952,125; Boston, \$88,806,672; Philadelphia, \$60,315,880. In 1891 Baltimore stood fourth, with a volume of trade \$2,000,000 less than that of Boston, but the year 1892 brought Baltimore to its present position. It is a fact worthy of note that during

the past year, while the export trade of New York fell off \$10,000,000 and that of New Orleans decreased by about \$8,000,000, the export trade of Baltimore increased over \$12,000,000. This gain was in the face of a decline of \$32,000,000 in the aggregate export trade of the country. The exports of foodstuffs contributed largely to the increase of Baltimore's foreign commerce in 1892, as the shipments of grain increased from 21,191,713 bushels in 1891 to 36,704,455 bushels in 1892. An enumeration of a few of the important items in the export trade of Baltimore for 1892 will indicate the character of the city's foreign trade: Flour, 3,661,-



A GLIMPSE OF BALTIMORE'S HARBOR.

623 barrels; wheat, 16,661,559 bushels; corn, 18,995,907 bushels; pork, 9,143,182 pounds; lard, 51,153,707 pounds; bacon, 6,014,727 pounds; ham, 3,516,747 pounds; beef, 11,715,496 pounds; canned beef, 29,907,787 pounds; tallow, 23,588,179 pounds; lumber, 36,121,000 feet; tobacco, 107,293 tierces and hogsheads; whiskey, 778,635 gallons; oil cake, 35,726 tons; cattle, 57,740 head; copper matte, 62,414,117 pounds; cotton-seed oil, 1,360,902 gallons; oleo oil, 19,547,430 pounds; cotton, 299,351 bales; rosin, 113,306 barrels; dried apples, 4,024,000 pounds.

The foreign trade of Baltimore furnishes traffic to eighteen lines of regular steamers of large carrying capacity, besides a great number of

tramp steamers which make occasional trips and several lines of sailing vessels. The list of steamship lines in the foreign trade is made up as follows:

Empire Line, monthly to Leith.

Bristol Channel Line, tri-weekly to Bristol.

Allan Line, fortnightly to Halifax, St. John's and Liverpool.

North German Lloyd Line, fortnightly to Bremen.

Neptune Line, weekly to Rotterdam.

Royal Netherlands Line, fortnightly to Rotterdam and Amsterdam.

Earn Line, at short intervals to Cuba and West Indies.

Hooper Line, occasional sailings to Liverpool.

Johnston Line, weekly to Liverpool.

Donaldson Line, fortnightly to Glasgow.

Blue Cross Line, bi-monthly to Glasgow, New Castle and Hull.

Robert N. Sloman's Line, monthly to Rio Janeiro and Santos.

Puritan Line, bi-monthly to Antwerp.

Liverpool, Brazil and River Plate Line, semi-monthly to Rio Janeiro and Santos.

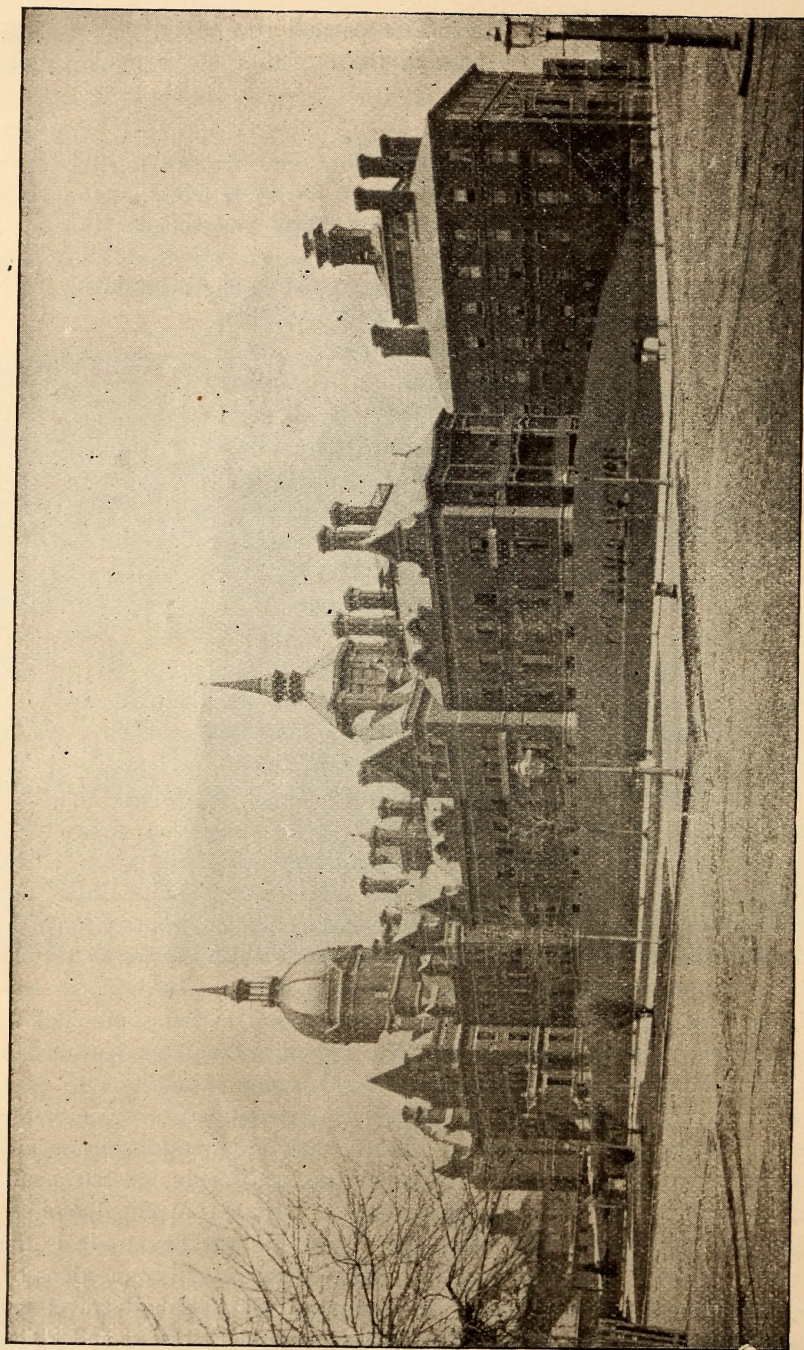
Blue Cross Pinckney Line, bi-monthly to Havre.

Atlantic Transport Line, weekly to London.

Hamburg-American Packet Line, semi-monthly to Hamburg.

Lord Line, weekly and bi-monthly to Belfast, Dublin and Londonderry.

The great Chesapeake bay, at the head of which Baltimore stands, is a most important commercial advantage to the city, yielding a volume of traffic that would maintain the business interests of a large city. Into this bay empty numerous navigable streams which traverse prosperous agricultural regions of great extent on the shores of Maryland and Virginia, and reach many thriving towns and small cities, for all of which Baltimore is the natural market and supply centre. The commerce of this tributary territory sustains a great number of steam and sailing craft which ply the waters of the bay, bringing to Baltimore a large volume of freight. Beyond the bay Baltimore does a great amount of business with ports to the south and to the north, this coastwise traffic maintaining several well-equipped steamship lines which handle a considerable passenger business in addition to their freight traffic. The Merchants & Miners' Transportation Co. is one of the largest of the coastwise lines, having a fleet of nine large modern steamships plying between Baltimore and Norfolk, Providence, Boston and Savannah. The New York & Baltimore Transportation Co. operates an equal number of steamers between Baltimore and New York. In the bay trade is the Bay Line between Baltimore and Norfolk, with important connections by both rail and water which make it an important link in through travel and transportation. The Ericsson Line operates between Baltimore and Phila-



JOHNS HOPKINS HOSPITAL.

delphia by way of the Chesapeake & Delaware Canal. The Richmond & York River Line runs from Baltimore to West Point and Richmond, communicating with the Richmond & Danville Railroad for points further South. The Roanoke, Norfolk & Baltimore, Maryland, Suffolk, Chester River, Weems and Maryland & Virginia steamboat companies all are engaged in the bay trade, in addition to which there are other small lines and innumerable pungies, bugeyes, schooners and other sailing craft engaged in the oyster, produce and fruit-carrying trade, the greater part of which reaches Baltimore for distribution to other markets. Although small in its individual items, the aggregate of the commerce of the Chesapeake bay forms a very important feature in the trade of Baltimore.

With this view of Baltimore's facilities for transportation by water to coastwise and foreign points, let us turn to the railroad accommodations of the city. At the outset it is of interest to note that citizens of Baltimore were the pioneer railroad builders of the United States. Ever since its inception in 1826 the Baltimore & Ohio Railroad has been inseparably interwoven with the history of Baltimore, and for more than fifty years the railroad has been an important element in the prosperity and growth of the city. The first section of the road was opened for traffic on May 22, 1830. It was then a thirteen-mile road, extending from Baltimore to Ellicott Mills, on Patapsco river, and operated by horses, with a maximum speed of ten miles an hour. At present the Baltimore & Ohio is a comprehensive system of over 3000 miles, connecting the great trade centres of the East—Baltimore, Philadelphia and New York—with the principal centres of the West. Its terminal facilities at Baltimore are planned on a magnificent scale, and when fully completed will provide admirable accommodations for handling the diversified and extensive business of the company. The tidewater terminus of the system is at Locust Point, directly within the main harbor, where the railroad has a large water frontage, with docks, elevators, coal-shipping piers and yardage. The heavy immigrant business of the road is also handled at this point, for which special facilities are provided. There are two grain elevators for export delivery at Locust Point, one of 1,500,000 bushels capacity, the other 1,800,000 bushels. Another elevator conveniently located in the city is used for local traffic. Across the Patapsco river from Locust Point at the foot of Fell street there is a freight depot largely used by the oyster and canning interests. The central station of the road in Baltimore covers a wide area fronting on Camden street and readily accessible. Under existing conditions all traffic destined for points east of Baltimore has to be ferried across the Patapsco from Locust Point, but the Belt Line tunnel now approaching completion will give the railroad passage under and through the heart of the city without break.

By means of the Northern Central Railway link of the Pennsylvania

Railroad, Baltimore is made a terminal point of this great trunk line, while the Baltimore & Potomac and Philadelphia, Wilmington & Baltimore railroads, parts of the same great system, place Baltimore upon the great high road between New York, Washington and the South. By the Northern Central Railway, which crosses the main line of the Pennsylvania Railroad at Harrisburg, Pa., and extends northward to the Great Lakes, an enormous traffic in corn and wheat from the West and Northwest is poured into Balti-



WASHINGTON MONUMENT, MT. VERNON PLACE.

more for export from the elevators of the company at Canton, about three miles below the city proper. At Canton there are extensive terminal facilities, extending along several miles of water front, and here there is an immense interchange of freight between the railroad and the steamship lines. The principal city terminals of the Pennsylvania system are the Calvert, President-Street and Bolton stations, all of which are located at advantageous points in the business portions of the city. At the Calvert-street freight yards there is a grain elevator of 300,000 bushels capacity, used for city trade. In addition to

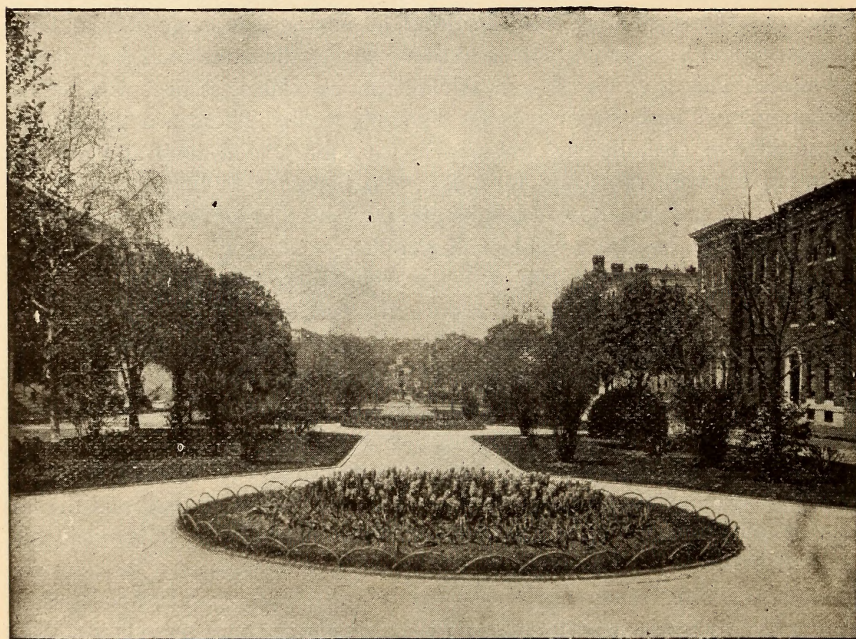
the extensive tidewater terminals at Canton, the Pennsylvania lines have numerous receiving stations on the water front for the accommodation of special classes of trade. The chief passenger station, the Union, is located in the upper part of the city, the railroads entering the city on either side by tunnel. The cattle trade of the Pennsylvania and Baltimore & Ohio Railroads is handled jointly at the yards of the Union Stock Yards & Abattoir Co., at Claremont, west of the city, and reached by both railroads. This union establishment is a new institution, not yet fully completed, which will be one of the most complete stock-yards in the country. In addition to the great grain trade which the Pennsylvania Railroad brings to Baltimore over the Northern Central Railway, an immense tonnage of coal, both anthracite and bituminous, comes to the city over the same road from Pennsylvania. This traffic is of such volume that special piers are provided at the company's harbor terminals for handling coal. There are three piers for anthracite coal, having storage capacity for 30,000 tons and a daily shipping capacity of 10,000 tons, and two piers for bituminous coal are, respectively, 400 and 800 feet in length, with berth room for five steamers to load at once, besides several smaller craft.

With its main line and numerous branches, aggregating over 200 miles, the Western Maryland Railroad makes tributary to Baltimore a large and productive territory in Maryland and the southern counties of Pennsylvania. The main line reaches westward from Baltimore through the State of Maryland to Cherry Run, W. Va. About half the mileage of the road, however, is in Pennsylvania, and with the extensions now being made it will reach nearly all of the trade centres along the southern border of Pennsylvania, and also give Baltimore an additional entrance to Harrisburg and thence into the coal and iron regions of Pennsylvania. The road also has valuable connections with the Reading and Baltimore & Ohio systems. Its terminal facilities at Baltimore are ample, embracing large freight sheds, warehouses, yards, &c., in addition to the tide-water terminals of the Pennsylvania system, which it uses jointly with that company. The Western Maryland Railroad Co. also holds a franchise for the construction of a line through the centre of the city to tide water, the provisions of which are very liberal and which may at some time in the near future be made use of to give this road independent terminal facilities.

The Baltimore & Lehigh Railroad is a short line extending northward from Baltimore to York, Pa., a distance of 75 miles. It traverses a fine agricultural country and a section that shows steady material growth. It touches several valuable quarries and passes through a section of country that possesses great possibilities for manufacturing or residence purposes. At present this road is a narrow-gauge line, but the carrying out of plans which have already been formulated will make this a standard-gauge road,

well equipped and in a position to handle important business. The Baltimore Forwarding & Railroad Co., which now operates this road, owns a large tract of land at Canton with a very valuable water front. At this point independent tide-water terminals will be built for this road and connections will be made with the Belt Line Railroad, by means of which the Baltimore & Lehigh will have access to all portions of the city and the use of extensive facilities.

The Annapolis & Baltimore Short Line is a road of thirty-three miles in length following the Patapsco river and the bay to Bay Ridge and using the



EUTAW PLACE.

terminals of the Baltimore & Ohio Railroad in Baltimore. The country through which this road passes is chiefly devoted to truck farming and constitutes an important source of supply of foodstuffs for the city.

Baltimore has twenty-three banks with an aggregate capital of \$13,287,860. The statement last called for by the Comptroller of the Currency showed the following condition on December 9th, 1892: Capital, \$13,287,860; loans and discounts, \$32,079,300; surplus fund, \$4,477,900; undivided profits, \$1,504,543; individual deposits, \$24,351,224.

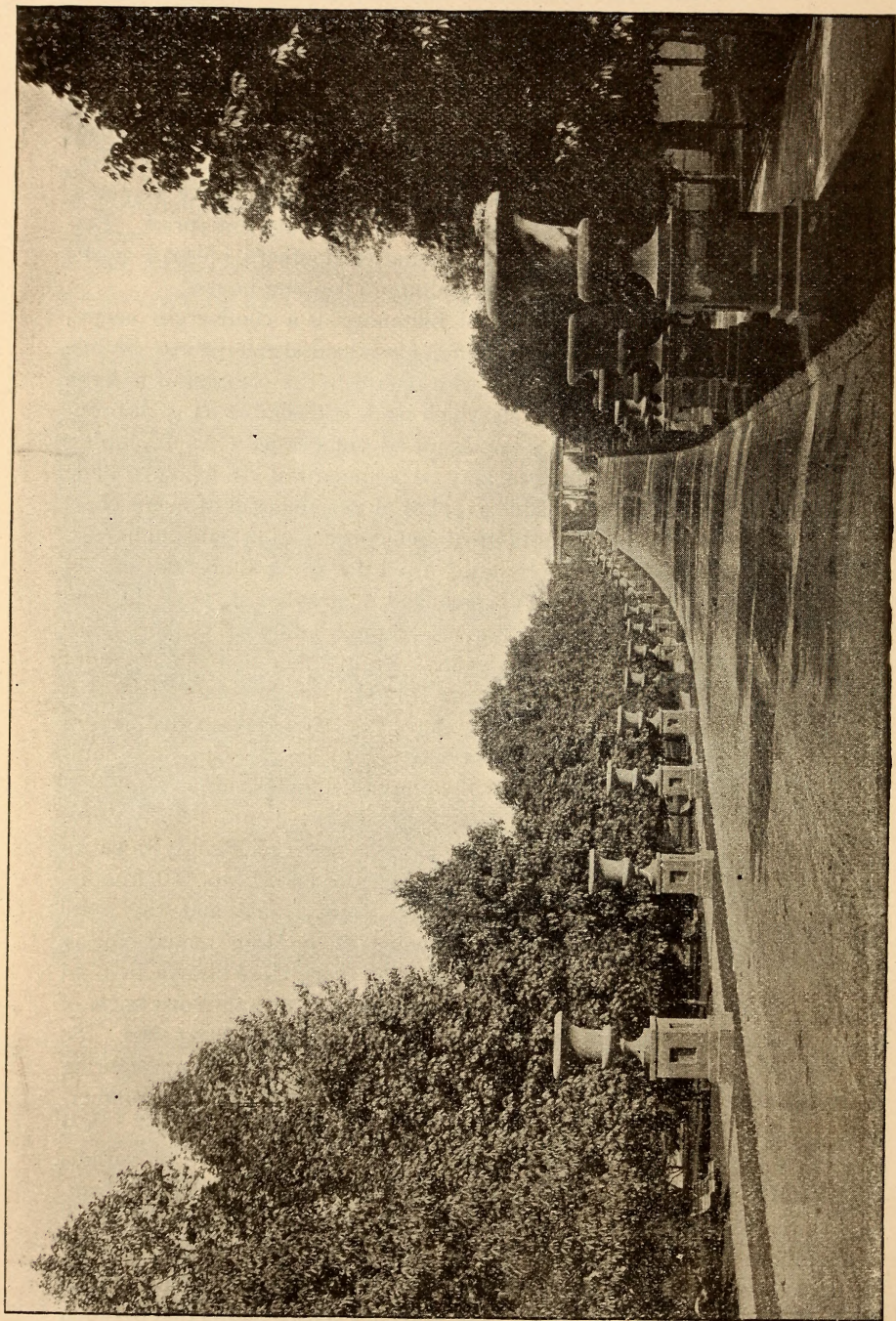
The aggregate bank clearings for Baltimore during the year 1892 were \$772,000,000, an increase of \$36,000,000 over the preceding year and a gain

of \$151,000,000 in five years. In addition to the national banks there is a very large amount of private capital engaged in banking in Baltimore, and there are a score of well-known private banking houses whose business reaches a large aggregate and extends to all parts of the country and abroad. The banking business of Baltimore is conducted on a very safe and conservative basis, and, while no encouragement is offered to speculative ventures, ample capital is always available for any sort of legitimate enterprise. Evidence of this appears in the enormous amount of Southern railroad stocks and bonds that have been absorbed by Baltimore banking houses.

Having considered the advantages of Baltimore as a commercial centre, we may turn to its advantages as a location for industrial enterprises. While the site of Baltimore was not selected with regard to the creation of a large industrial centre, the same conditions which made it desirable as a distributing point have also given it very important advantages as a manufacturing centre. The industrial advantages may be summarized as follows: The location of the city renders available supplies of raw material of every character for manufacturing purposes in great abundance and at minimum cost. Lumber is brought to Baltimore by water from the great timber regions of the South and by rail from West Virginia and Pennsylvania. On the one hand are the great iron-producing regions of the South, and on the other are the furnaces and mills of Pennsylvania. From either source a supply of iron can be obtained with equal advantage. One of the oldest and best known coal-producing regions of the country, the Cumberland coal field of Maryland and West Virginia, is about 200 miles from the city, and Baltimore is the natural shipping point for the output of these mines.

The Northern Central Railroad, reaching northward into Pennsylvania, brings both the anthracite and bituminous coal fields of Pennsylvania to Baltimore's door. Fuel is, therefore, both abundant and cheap in Baltimore. Proximity to the manufacturing regions of Pennsylvania and the cities along the Delaware river, and the existence of a large manufacturing interest in the city itself make skilled labor of every class always in good supply. Added to these elements of advantage are the numerous tracts of land in and about Baltimore admirably adapted for manufacturing sites. To all of these advantages, which admirably equip the city for manufacturing purposes, must be added that advantage which makes Baltimore commercially great—namely, its commanding position as a distributing centre. Not only does the city offer every advantage for the manufacture of various products, but its position and transportation facilities offer immense advantage in the distribution of the manufactured products to various markets.

That these advantages exist in fact as well as in theory is indicated by the manner in which the manufacturing interests of Baltimore have grown during the past ten years or more. The eleventh census shows that between



IN DRUID HILL PARK.

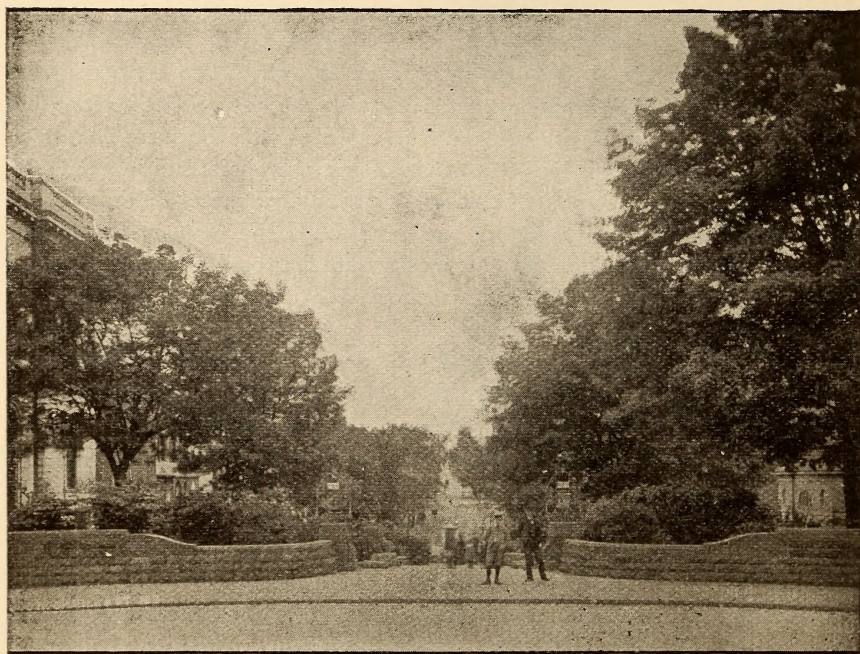
1880 and 1890 the number of manufacturing establishments in Baltimore increased from 3,683 to 5,258, while the capital invested in manufacturing increased from \$38,586,773 to \$82,526,344; the number of hands employed increased from 56,338 to 83,091; the wages paid from \$15,117,489 to \$35,377,538, while the value of the products manufactured rose from \$78,417,304 to \$140,401,026. The largest manufacturing interest in Baltimore, both in point of capital employed and goods manufactured, is the clothing industry.

In 1890 there were 125 establishments in this industry, representing an invested capital of \$11,897,563, employing 13,094 hands and yielding a product amounting to \$15,032,924. Ranking next to this is the canning and preserving of fruits, oysters and vegetables, an industry which has made the name of Baltimore familiar the world over. The census figures show only the record of this industry as regards the city proper, which does not convey an adequate idea of the real extent of this business, inasmuch as a large portion of it is located outside of the city limits and in neighboring towns, although the entire business practically centres in Baltimore. In the packing of corn and tomatoes Maryland leads the country, the output in 1892 being estimated at 977,742 cases out of a total of 3,223,165 cases for the entire country. The census shows that in 1890 there were forty canning and packing establishments in Baltimore, employing 8,990 hands and having a product aggregating \$8,516,799, but the figures for Baltimore alone probably represent not more than one-half of the industry centering in this vicinity. During the past season it was estimated that about 12,000 people were engaged in the fruit-packing industry in Baltimore alone, their wages amounting to \$75,000 per week. The great oyster industry of Chesapeake bay finds its market through Baltimore, and the packing of oysters forms a very large business in Baltimore, about 7,500,000 one-pound cans of oysters being packed here during the last season. The tobacco industry of Baltimore is a very important factor in the city's trade, as this city has been for more than two hundred years a great tobacco market. The Maryland crop is consumed almost entirely in Europe, the crop of the last year amounting to about \$1,250,000. There are about thirty-two tobacco factories in this district, and upwards of 800 cigar factories of various sizes. During the year ended June 30th, 1892, the products of this industry in this district amounted to 10,998,500 pounds of manufactured tobacco, 624,300 pounds of snuff, 108,165,500 cigars, and 35,100,000 cigarettes. The census figures for 1890 show a value for the products of this industry amounting to \$5,906,333.

The manufacture of cotton duck is one of the oldest and most important industries of Baltimore, the mills in this immediate vicinity producing about two-thirds of the duck made in the entire country. There are fifteen mills

in and about the city, with 134,200 spindles and 2165 looms. They give employment to about 3000 operatives, and produce annually something like 16,000,000 yards of cotton duck, besides a large quantity of yarn, twine and rope. Baltimore duck enjoys a high reputation, and the trade of these mills is distributed all over the world.

The manufacture of fertilizers has reached its greatest development in this country in Baltimore, which for many years had a practical monopoly of the Peruvian guano trade before the production of artificial fertilizers became an industry of consequence. Along the shores of the Patapsco and at various



CHARLES STREET, SOUTH FROM MT. VERNON PLACE.

points on the harbor are located about fifteen large fertilizer factories, most of them having extensive plants for the manufacture of their own sulphuric acid, and in addition there are several establishments engaged solely in making sulphuric acid, the larger part of their product being consumed by the fertilizer trade. For the requirements of last year's business upwards of 100,000 tons of South Carolina and Florida phosphate rock was received at Baltimore, and large quantities of sulphur and iron pyrites were imported. The fertilizer factories employ an average of about 600 hands and produce about 225,000 tons of fertilizers per annum, valued at about \$4,000,000.

The importations of raw materials for this industry constitute an important element in the commerce of the city.

For more than forty years Baltimore has had an iron industry of importance, a high grade of charcoal pig-iron having been made by furnaces located on the harbor and at several points near the city. This industry has dwindled to small proportions, and but one concern on the harbor continues this branch of the iron business. Within the past four years, however, the modern iron and steel industry has been developing in the vicinity upon a scale of great magnitude. At Sparrow's Point, where the Patapsco river enters the bay, the Maryland Steel Company has built a plant which forms the beginning of what will be one of the greatest iron and steel and ship-building establishments in the world. The plant now contains four blast furnaces of an aggregate annual capacity of about 400,000 tons of pig iron; a Bessemer steel plant and rail mill of great capacity, and a splendidly-equipped shipyard for the construction of every class of steel vessels. All of the iron ore used is imported from the company's mines in Cuba, a fleet of large steamships being engaged in this trade. Upwards of \$5,000,000 has been expended upon the plant at Sparrow's Point, and the works are far from complete. About 4000 hands are employed and an admirably-arranged town of 5000 or 6000 inhabitants has grown up about the works.

Shipbuilding has been an important industry on the Patapsco longer than Baltimore has existed. There are a dozen or more yards for construction and repair work, with dry docks, marine railways and other modern appliances. There are facilities for every kind of work from an oyster pungy to an iron-clad warship, two of the latter now being near completion. During 1892 61 vessels, of an aggregate net tonnage of 17,277 tons, were launched from Baltimore shipyards. In a port of such commercial importance repair work upon seagoing steamships is a very large item. The Columbian Iron Works, which is the largest establishment on the harbor, has turned out a large amount of work, and its history is of no little interest. This concern began with the firm of Malster & Donnell, some twenty-three years ago, at the Caroline Iron Works, the principal work then in hand being the engines and boilers of the steamer Raleigh, of the Baltimore & Wilmington Packet Line. On the dissolution of partnership two years later Mr. Malster continued the business alone and had two yards—one at the foot of Ann street and the other near by at Canton, the two being called the Columbian Iron Works. At Canton were built the iceboat F. C. Latrobe, the steamers Enoch Pratt and Canton, the steam yacht Bretagne, then the largest steam yacht in the world, and the United States steamer Tallapoosa was overhauled and nearly rebuilt. At the Ann street yard were built the lighthouse steamers Laurel and Arbutus, the steamers Camille and Royal

Arch, and the tug Alexander Jones, the latter having the first compound engines built in Baltimore. In 1880 Mr. Malster moved across the harbor to the present site at Locust Point, adjoining Fort McHenry, where there is now a 450-foot dry dock, a water frontage of about 500 feet, with two piers 80 by 200 feet. The property embraces about fifteen acres and the plant is fully equipped with modern tools and machinery. About 600 men are employed, and some notable work has been done here. The two ferry boats, Robert Garrett and Erastus Wiman, the largest in the world, were built in 1887-8 for service between New York City and Staten



HARLEM SQUARE.

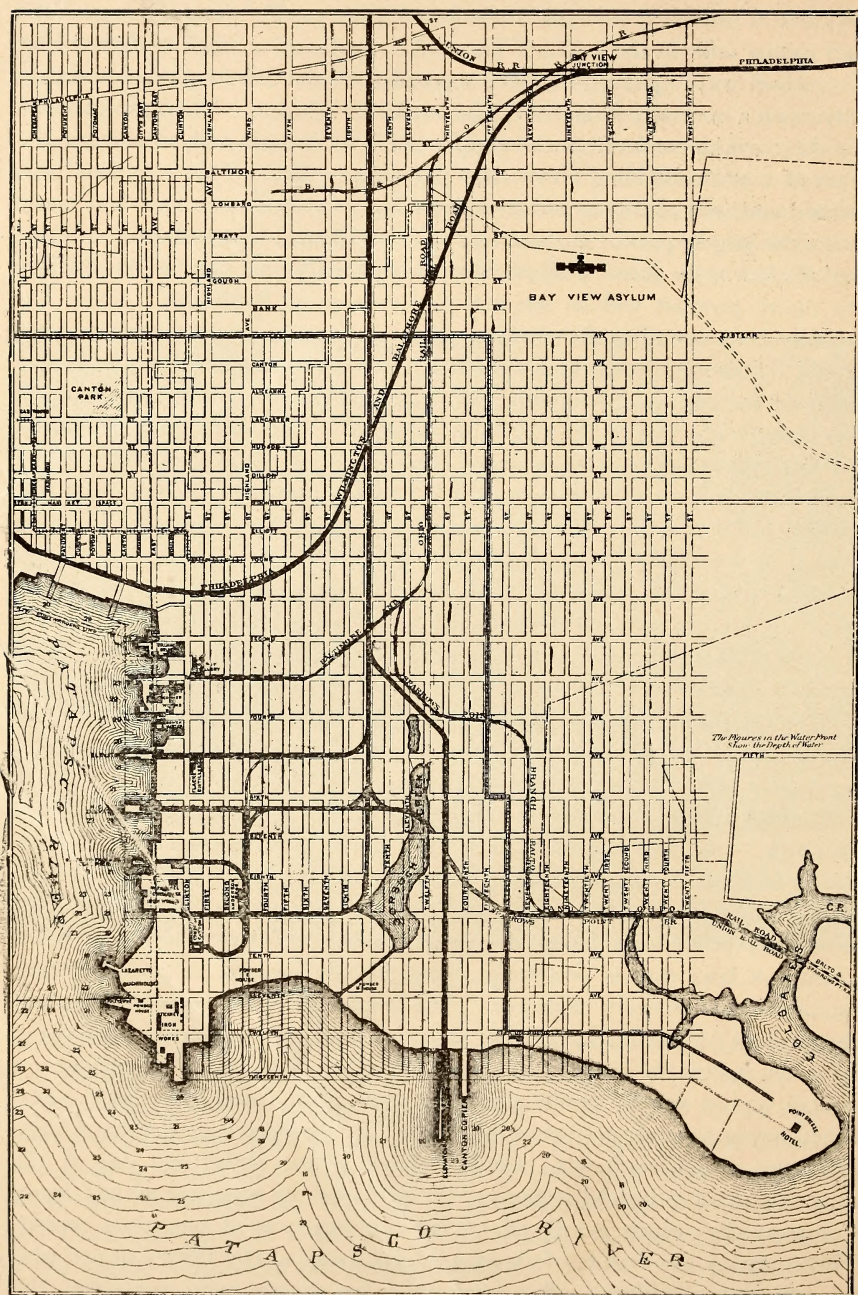
Island. The ice boat Annapolis was built here and the United States gunboat Petrel was turned out in 1889. The tank steamer Maverick, the first built on this side of the Atlantic was built here. The United States cruiser Detroit was launched October 28, 1891, and the Montgomery was launched December 5 of the same year, both vessels being now near completion. Since 1884 the concern has been known as the Columbian Iron Works and Dry Dock Company, of which Mr. W. T. Malster, the founder and creator of the works, is president and general manager.

Ever since 1815 when a copper rolling mill was established on the Gunpowder river, Baltimore has been the seat of a very important copper indus-

try, and at present it contains the largest copper smelting and refining works and rolling mills in the world. The Baltimore Copper, Smelting & Refining Co., which was organized in 1886, succeeded all the older concerns and now carries on a very large business at its works at Canton. The raw material for these works comes from the copper mines in Arizona and Montana in the form of matte containing about sixty per cent. copper. This is smelted and refined and sold as ingots and as rolled copper in various forms. For many years the largest part of the product of the Montana mines has been shipped abroad in the form of matte, but arrangements have been made whereby the entire product will be smelted and refined in Baltimore. There has recently been added to the smelting works at Canton an adjunct in the form of the Baltimore Electric Refining Co., which has established an extensive plant for the treatment of copper by electricity, the first plant of its kind in this country and one of the largest in the world. The output of refined copper from these works exceeds 30,000,000 pounds per annum, valued at many millions of dollars, in addition to which a large quantity of blue vitriol is also manufactured as a by-product. About 500 hands are employed in these works.

The limits of this article preclude even an enumeration of all the manufacturing interests which centre in and about Baltimore. Those that have been mentioned represent merely the more important industries and those which are most widely known outside of the city. There are a great many smaller establishments covering a wide range of industry, whose aggregate capital and products reach a large total and whose operations require the services of many thousands of employees.

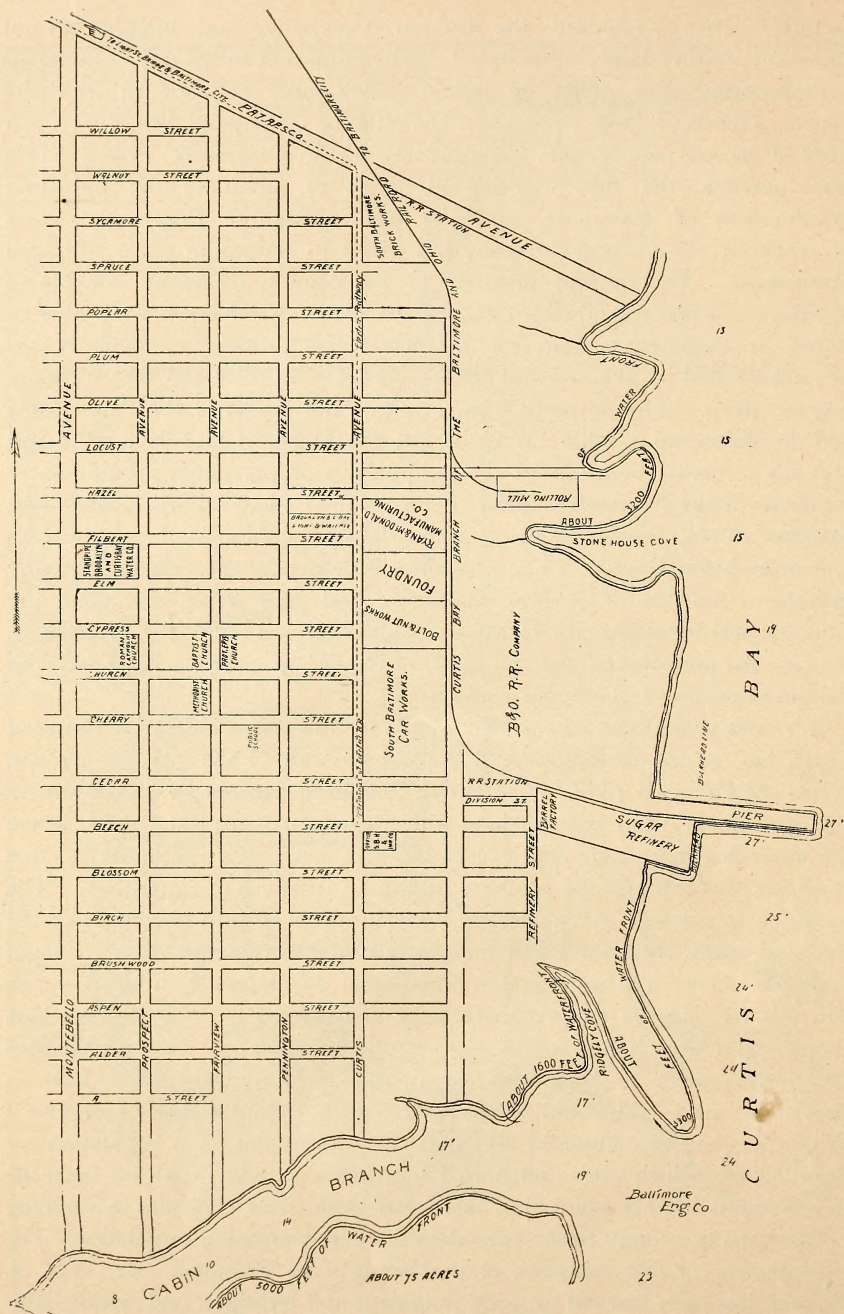
Coming to the more specific treatment of the industrial advantages of Baltimore, the most conspicuous feature is the great amount of property that is available for manufacturing purposes and peculiarly adapted to such uses. Along the water-front in particular, on the shores of the Patapsco river, and even down along the great Chesapeake bay, there is a great amount of land that is peculiarly suited for the location of manufacturing establishments of every character. The ample railway accommodations and the facilities for the receipt of raw materials and the shipment of products by water render the water frontage of Baltimore essentially a manufacturing section, and at several points along the water-front there have been established important industrial centres in which are grouped together many large industries of various kinds. Canton, which is the oldest and one of the most important industrial sections of the city, owes its existence to the Canton Company, by which nearly all of the property was at one time owned. This company was organized about sixty-five years ago by Peter Cooper, who was its first president, and a number of his friends, who perceived the great advantages which Baltimore possessed for commerce and manu-



CANTON.

facture. They organized the Canton Company, and bought several thousand acres of land on the lower harbor adjacent to the city. Pursuing a very conservative policy, in fact a policy quite at variance with the usual methods of land companies, the Canton Company has built up a town of 30,000 people upon the property which it formerly owned. This was, perhaps, the first well-defined effort to stimulate the industrial development of Baltimore, and the result of more than sixty years of work by the Canton Company has given to Baltimore great industrial prominence. The present property of the Canton Company consists of about 2500 acres of land which has 32,000 feet of water front, accessible to vessels drawing twenty-eight feet of water. The property is regularly laid off and divided by avenues and streets into lots generally 428 feet front by 204 feet deep. The property is traversed by the tracks of the Pennsylvania and the Baltimore & Ohio railroads, and the Western Maryland Railroad also has access to the property. It is upon this property that the tide-water terminals of the Northern Central (Pennsylvania) Railroad are located, and Sparrow's Point, the site of the great works of the Maryland Steel Co., is four miles below Canton. The present management of the Canton Company includes a number of wealthy Baltimore and New York merchants and bankers, and its assets are reckoned at over \$6,000,000. Mr. Walter B. Brooks, the president of the company, has long been actively identified with the development of Baltimore's resources.

In recent years there has grown up a very important industrial center at Curtis bay, or South Baltimore, a few miles south of the city proper and across the Patapsco river. The South Baltimore Harbor & Improvement Co. owns about 1500 acres of land with a very extensive water-front, where the water has an average depth of twenty-five feet. The Baltimore & Ohio Railroad runs through the property and has a terminus at Curtis bay. The property is reached by an electric railway which runs to the heart of the city, and under the stimulus of natural advantages and energetic management the locality has undergone a remarkable development in recent years. There is a very large sugar refinery, a barrel factory, car works and machine shops, and a large rolling mill is now nearing completion. These industries give employment to thousands of operatives whose dwellings form a flourishing town. The land slopes up gradually from the water's edge to a height of about two hundred feet, and the locality enjoys a reputation for healthfulness, which adds much to its advantages. So rapid has been the development at this point that there has been great difficulty in building houses rapidly enough to accommodate the ever-increasing population. The management of this company in the hands of its President, Mr. Wm. S. Rayner, has been marked by good judgment and foresight, and South Baltimore has come to be recognized as one of the greatest industrial centers of Maryland.



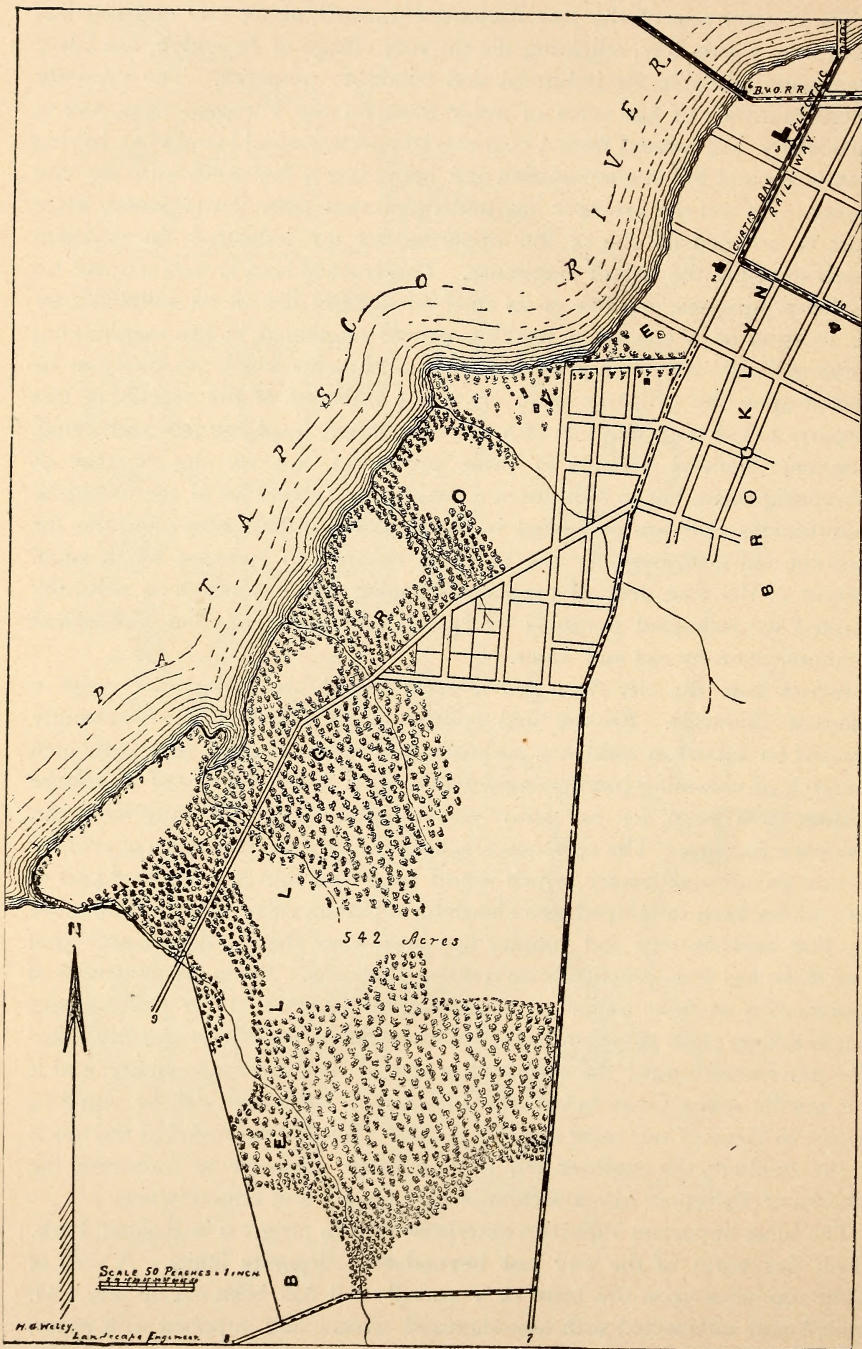
SOUTH BALTIMORE.

The country seat of the late Richard Cromwell, about one and one-half miles from Curtis Bay, adjoining the thriving village of Brooklyn, has lately been made available for industrial and residence purposes. The property embraces a tract of 540 acres of water front on the Patapsco river, and is particularly well located from a commercial and industrial standpoint, having both water and rail communication and being but a few miles from the city proper. As yet the property has undergone very little development, but it must be counted as one of the opportunities for industrial development which surround the city of Baltimore. This tract of land is well adapted for residence purposes, and one of its chief advantages lies in its suitability for the location of a colony of working people employed in the neighboring works at Curtis Bay or in prospective establishments which are likely to be erected upon the property itself. It is the intention of the owners of this property to cut it up into lots of a convenient and available size and shape.

Specific mention is made of these properties, not for the purpose of advertising them, but to indicate in a measure the character of the industrial opportunities that are presented in the outskirts of Baltimore; but the list does not end with these, for the localities referred to embrace but a small portion of the vast area of property adjoining the city which is naturally adapted for industrial purposes by reason of its location and convenient communication by rail and water.

Inland from the city there lies a great stretch of country of quite a different character. Broken and rolling in its surface and charmingly situated for suburban residence purposes, it is rather singular that, with such a stretch of charming country immediately at its doors, the city of Baltimore should have been for so many years practically without any suburban residence sections. The railroads reaching the city traverse miles of country of rare picturesque beauty, which would have long ago in any other part of the country been developed into charming suburban villages, but in Baltimore the line between city and country has been very sharply drawn, and until now there has been practically no residence suburbs. There are evidences of appreciation of these suburban opportunities, however, in the development that is taking place in several localities immediately outside of the city lines. The movement toward the country has started in a vigorous manner, and it will not be many years before the suburbs of Baltimore will be equal in beauty to those of our most attractive cities. All that is needed is the touch of the architect, the engineer and the landscape gardener to transform the suburbs of Baltimore into a section of rare beauty and attractiveness.

The most important suburban enterprise now in progress is Roland Park, which lies north of the city just beyond the corporate limits. A tract of about 120 acres upon the brow of a gravelly hill has been cut up into lots, graded and intersected with macadamized streets, and supplied with water,



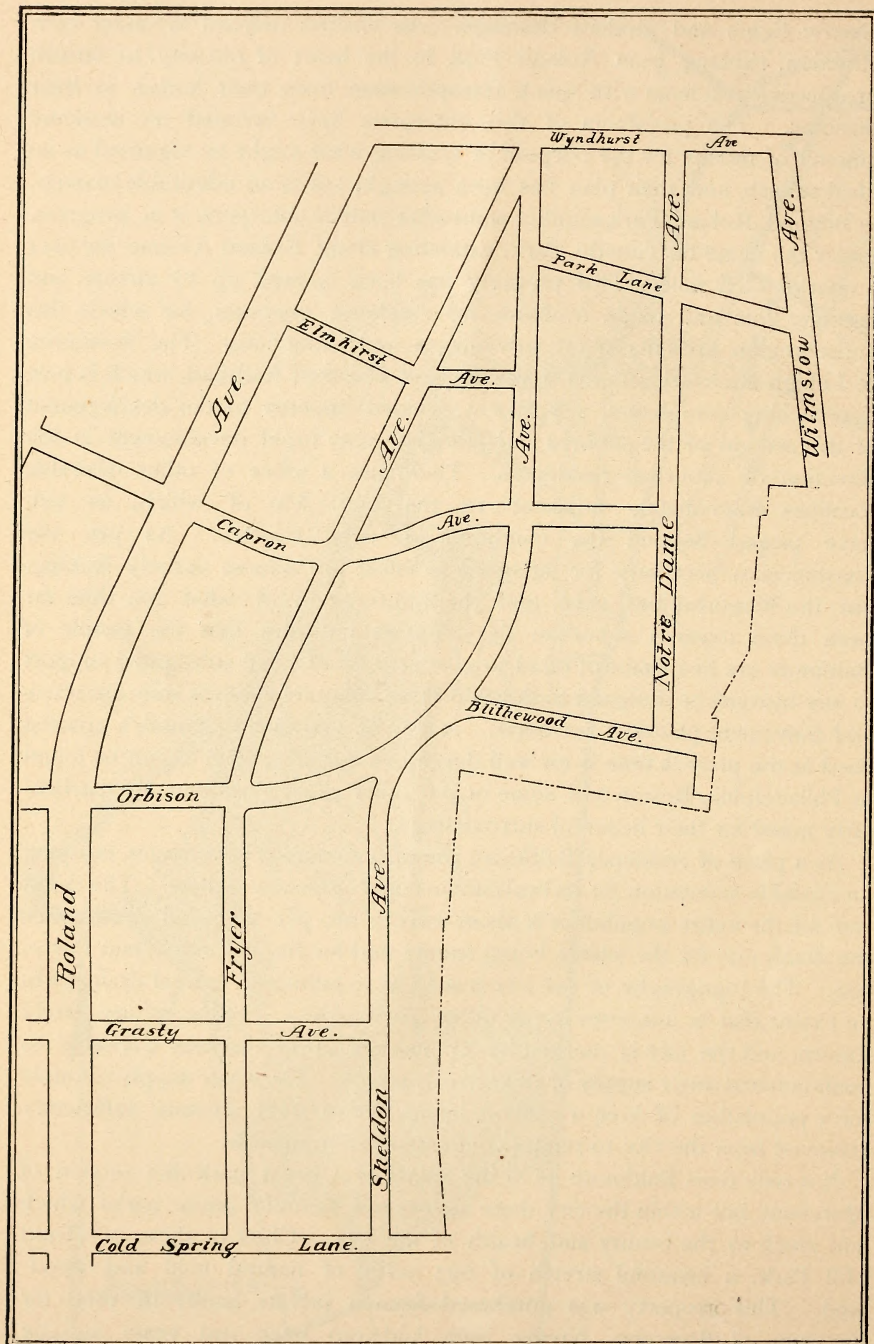
THE CROMWELL ESTATE.

electric lights and modern drainage. An electric railroad is under construction, running from Roland Park to the heart of the city, to furnish prospective residents with quick transportation from their homes to their business. The projectors of this enterprise have invested an immense amount of money for the purpose of creating what might be regarded as an ideal suburb, and their plan has been wrought out in an admirable manner.

Beyond Roland Park another somewhat similar enterprise is in progress, under the name of Tuxedo Park, extending along Roland Avenue for over a quarter of a mile. This property has been opened up by streets and cut into lots and made available for residence purposes, for which this entire region presents many advantages and attractions. The Baltimore & Lehigh Railroad and the Lake Roland Elevated Railroad, which is now approaching completion, will give a decided impetus to the development of this section of the suburbs and stimulate very rapid development in the direction of suburban residences. There are a score of other desirable localities immediately adjacent to the city, few of which, as yet, have passed beyond the condition of open country. As yet, the conveniences necessary for suburban comfort are almost entirely lacking, but the opportunities exist, and the appreciation of what has thus far been done towards suburban development indicates that the people of Baltimore are in a frame of mind to give very cordial and substantial support to any movement designed to develop these beautiful suburbs into attractive and convenient places of residence. It may be said that Baltimore's greatest need at the present time is for well-developed suburbs, such as can be found in Philadelphia, Boston and some of our other great cities that are particularly noted for their beautiful surroundings.

As a place of residence Baltimore presents numerous advantages, enjoying an enviable reputation for its healthfulness and agreeable climate. The death rate for the entire population is about twenty-two per thousand inhabitants, the death rate for the whites being twenty and for the colored about thirty-one. The topography of the city is such as to permit of natural drainage to an extent that is unknown in our other great cities. Epidemics are rarely known, and the city is marked by an absence of all diseases traceable to contaminated water supply or defective drainage. The water supply is ample for a population of over a million, being drawn from streams sufficiently removed from the city to render contamination impossible.

Not only does Baltimore lie in the midst of a great park-like section of Maryland, but within the city there are several beautiful public parks which add much to the beauty and health of the city. Chief of these is Druid Hill Park, a beautiful stretch of 693 acres of natural field and woodland. This property was purchased from a private family in 1860 for the sum of \$500,000, having been laid out over 100 years ago by

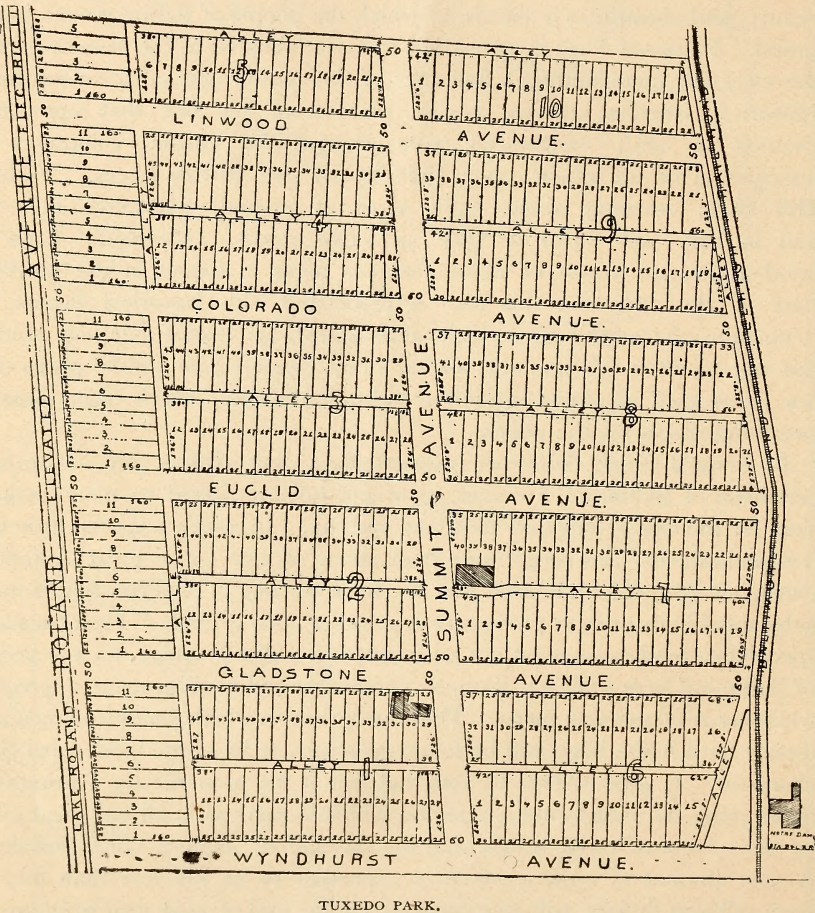


ROLAND PARK.

its owners in the style of an English park. The preservation of the natural features of this tract of land and the many ancient trees of large growth give it a beauty that is lacking in artificially-created pleasure-grounds. The judicious use of landscape gardening has enhanced the picturesque beauty of the park, its numerous lakes have been stocked with fish, and deer and sheep roam at large throughout the park. It is a spot of rare beauty, and constitutes a feature of which the people of Baltimore are justly proud. Patterson Park is a tract of 113 acres, situated in the eastern part of the city, and commanding a fine view of the harbor and adjacent territory. Historical interest attaches to the place from the fact that upon this location in 1814 earthworks were erected by citizen volunteers in anticipation of an attack upon the city by the British forces. Federal Hill Park, covering about eight acres of ground, overlooks the city and harbor, and forms a very attractive resort. Riverside Park is another pleasure resort of about fourteen acres in extent in the southern part of the city, and this also is associated with historical events, as it contains the earthworks which were known as Fort Covington during the war of 1812. There are several other squares and public parks of a few acres each in extent scattered through the city, which form pleasant breathing-places for the people.

By general repute Baltimore is essentially a conservative city. The conservatism of Baltimore, however, must not be interpreted to mean stagnation, for the city grows and develops rapidly. In many respects, however, it is undoubtedly less progressive than some of our other great American cities, but it must be admitted that we have no city in America that is more substantial in its present prosperity or steadier in its growth. The absence of speculative tendencies must not be counted as a disadvantage, for the people of Baltimore have sufficient business perception and intelligence to appreciate whatever is of genuine merit. The enterprises in which Baltimore men and money have had a hand will be found invariably to be of the most substantial character. It is of interest to note that just at the present time Baltimore is undergoing the transformation period which is marked in all our great cities by the advent of rapid transit and the erection of modern office buildings. A vast amount of money, which is estimated to be not less than fifty or sixty millions dollars, will be expended by the end of next year in improvements of a public and semi-public character. The street railways of the city are undergoing a complete transformation which will result in the abolition of animal power and the substitution therefor of the cable and electric motor. It is estimated that this transformation requires the expenditure of about \$10,000,000. Apart from this the most important stimulus to the commercial interests of the city is being imparted by the erection of handsome modern business buildings such as will compare favorably with those

that are found in many of our most progressive cities. Three or four fine office buildings ranging in cost from \$100,000 to \$1,500,000 have already been completed and three or four others are now in course of erection. The completion of these buildings and the improvements of transportation facilities will impart a stimulus to Baltimore such as it has never



known before, and the result will be of inestimable value to every interest in the city. It is significant also as showing the appreciation of what Baltimore is or may be that a very large proportion of this immense amount of money now being expended in improvements comes from other cities, showing that there is a widespread appreciation of the advantages and possibilities existing in Baltimore.

NATURAL GAS IN INDIANA.

There is an impression very generally prevalent that natural gas as an economic factor has seen its best days. Like many other popular beliefs, however, this is incorrect. The idea has grown out of the casual reading of occasional newspaper articles about the failure of gas in some sections where it was first used. Natural gas has not played out by a good deal.

On the contrary, it is going to be a more important factor in general development than it has yet been. True, it has given out in some localities and the supply has been greatly lessened in others. Many towns in the gas districts of Pennsylvania and Ohio that once used gas for domestic purposes and for manufacturing have had to abandon it altogether. But it is still largely used, though, of course, in the older gas regions not to anything like so great an extent as formerly.

The area of gas territory in Pennsylvania and Ohio is very small. For several years after the general use of natural gas began it was used with reckless wastefulness. Nobody thought of taking care of it. The flow from many of the largest wells was allowed to go to waste for months. Traveling through the gas fields at night one would hardly ever be away from the light of wells that were allowed to burn continuously simply to advertise some adjacent town, or because the owners didn't think it worth while to confine the flow.

Wells were bored and the gas from them allowed to blow out into the air for months, until the increased consumption in the neighborhood should make it necessary to utilize it. Besides this sort of waste, its method of use in factories and homes was inconceivably extravagant. There was

a notion that the gas was generated as fast as used and could never be used up. It seemed to the mind of most people to be a newly-discovered gift of nature, as free as water and air and as incapable of exhaustion. For years millions and millions of feet a day were thus wasted. Besides this, the actual consumption subjected the fields to an enormous drain. The great aggregation of industries in and around Pittsburg and the factories at Findlay, Tiffin and a hundred other cities and towns within the gas area, used natural gas almost wholly in place of coal, and it supplanted coal and wood for all domestic uses also. In addition to this stupendous draft upon the hidden reservoirs, gas was piped to large cities outside of the district and used for manufacturing purposes and for heating, lighting and cooking. Taking these facts into account and considering the very small area of gas-producing territory in Pennsylvania and Ohio, the wonder is that the supply of gas did not give out years ago. And yet, even in these two States there are yet several hundreds of productive wells, yielding many millions of cubic feet of gas a day.

The gas district of Indiana, which is of recent discovery and development, is many times as large as the aggregate gas-producing territory of Pennsylvania and Ohio combined. The owners of gas lands in Indiana are wisely profiting by the experience of the older fields, and are carefully guarding against any waste of the gas. Moreover, it is protected from waste and extravagant use by stringent laws that are rigidly enforced. Thus, even if the Indiana gas field had not any greater supply than Pennsylvania and Ohio had, it would hold

out many years longer. But, as a fact, the field embraces, as has just been said, an area many times greater than that of these two States.

In the centre of the gas district there is an area of greater pressure and more abundant and lasting supply than in the surrounding territory. This high-pressure field is about 1600 square miles in extent, and only about one-fourth of it has been drawn upon.

Since natural gas began to be used in Indiana there have been some instances of remarkable town growth brought about by the building of factories, the owners of them having moved from other localities because of the inducement of cheap fuel. Of course, accompanying this expansion of towns into cities, there is great real estate speculation. Fortunes are made on small investments.

At the older places the limit of prices has been very nearly reached, and values will, in the main, make but little advance until the towns have made large further additions to their population. The buyers, with appetites whetted by their experience in the older towns, will next give their attention to the new towns now coming into prominence. Of the more recently started towns the most prominent and promising is Alexandria, which, according to the maps issued by the State Geological Department, lies in the geographical centre of the area of heaviest pressure. Alexandria is undergoing a much more rapid industrial development, and it is going to have a much greater real estate boom than any of the other towns in the gas district have had. Two years ago it had no factories and was simply a country village of the usual sort. A year and a-half ago a lamp-chimney works was started. This was followed in a little while by a window-glass factory. Then others came along, until at the end of a year there were fourteen factories, employing about 1200 hands. A year or more ago the De Pauw Plate Glass Co., of New Albany, Ind., just across the river from Louisville, Ky., owning one of the largest plate-glass works in the world, decided to remove its plant into the natural gas district. The best experts in the country were employed and several thousand dollars were spent in exploring the whole gas field. As a result of this in-

vestigation the company fixed upon Alexandria as the locality likely to have the largest and longest supply of gas, and decided to move its works there. It has now completed one-fourth of its plant and gone into operation. The buildings are of brick and of the most substantial and expensive sort. Between 400 and 450 men are employed. The works when finished will cover nearly thirty acres of ground and employ from 1600 to 2000 men. The De Pauw people, under a separate organization, are building also a window-glass factory to employ between 900 and 1000 men. Half of this plant is already completed and will start up next month with 400 or 500 men. A bottle factory and a glass-jar factory are to be built, and will employ about 200 men each. The United Window Glass Co. has signed a contract to build a window-glass factory that will employ 1200 or more hands. The same concern will build also a factory to make table glassware. A rolling mill that will employ from 300 to 500 men is preparing to build. A contract has just been signed for the establishment here of earthenware works guaranteed to employ not less than 500 hands. A canning factory to employ 200 hands will be built in the spring. The lamp-chimney works, the first factory started, is to be enlarged and will employ 275 more hands than now. Several smaller industries are under contract and negotiations are pending with a large number of others. There are 500 or 600 men now employed in building operations. The enterprises already in operation or contracted for will employ an aggregate of over 8000 mechanics.

A year ago there were about 800 people living at Alexandria. The present population, ascertained by actual count, is something over 4500. A three or four-story brick hotel is to be built. An electric street railway will be constructed in the spring, and various other improvements have been inaugurated. The town is at the crossing point of the C., C., C. & St. L. R. R. (the Big Four) and the Lake Erie & Western Railroad. The Panhandle, one of the Pennsylvania Company's lines, will build to the town.

Factories locating at Alexandria are given a site and allowed the use of gas free by the Alexandria Company, of which Mr. A. A. Arthur is manager.

CHARLOTTESVILLE, VIRGINIA, U. S.

Nearly one hundred years ago the greatest statesman then living appeared before the Old Dominion legislature and asked that the child of which he was justly proud, the University of Virginia, should be located at Charlottesville. It was then a small and insignificant village. Thomas Jefferson's request was granted, and for many years the town of Queen Charlotte was only known as the place near which the Athens of America was built. Now the ancient inhabitants would hardly know it. From a straggling, poorly-paved, muddy-streeted, dingy and shabby old neglected town of about 2500 people in 1880 there has sprung a city of nearly 10,000 inhabitants. Well has it been called the Central City of Virginia, for it is so geographically, socially, educationally and religiously. It is also a railway centre. The Richmond & Danville and Chesapeake & Ohio Railroads cross at Charlottesville and have eighteen passenger and about sixty freight trains daily. The city is only three hours from the nation's capital, Washington, and four hours from Baltimore, nine hours from New York, two and a-half hours from Richmond, two hours from Lynchburg and one hour from Staunton.

Charlottesville is the county seat of Albemarle, one of the richest and most productive counties in Virginia. Fruit, especially the justly celebrated Albemarle pippin apple, grows abundantly; grapes are easily and profitably cultivated. The people of the city and county work together with great harmony and good-will. The schools, both public and private, are the best in existence, having gained a world-wide fame. The churches represent every denomination and have seating capacity for 10,000 souls, or for every man, woman and child in the township.

Property is low both as to the purchasable value and rentals. The city has never had a boom, and to a stranger returning from the dreary waste, now characterizing the dead corn-field or boom towns, this place proves a lovely oasis in the midst of a sandy desert. The factories here are doing well, making from 7 per cent. to 11 per cent. dividends for their stockholders. The land company, under the management of one of nature's noblemen, has accomplished wonders. People all seem happy and contented with themselves, neighbors and surroundings—all at work and more employment for willing hands to do.

If you want to know more about this thriving city, go and see it or write for information, maps, etc., to the Hon. L. T. Hankel, the postmaster, judge of the city or county, or to A. P. Bibb & Co., real estate and investment brokers. If in Washington, D. C., during the inauguration, call at No. 1716 Pennsylvania avenue and ask for A. P. Bibb. He will be pleased to answer and furnish you additional information. The best thing for you to do is to go and see for yourself what this city is really like. We have been there and were pleased.

Charlottesville should influence your best judgment as a place for business investment. It appeals to the imagination as a place of rare picturesque beauty. From the heights surrounding the city, scenery such as delights the artist meets you at every turn. The patriot may here have his purest and noblest passions thoroughly aroused as he bows, with uncovered and reverent head, before the beautiful national monument which marks the resting place of the Sage of Monticello.

OPPORTUNITIES FOR INVESTMENT.

We shall be pleased to answer communications and give information concerning the following opportunities for investment. Address all correspondence to the Manufacturers' Record Publishing Co., Baltimore, Md., and be particular to give the number of the notice to which you refer.

No. 7.—A MANUFACTURING COMPANY in Texas desires to place \$28,000 ten-year 8 per cent. mortgage bonds, the total issue being \$60,000, of which \$32,000 has already been sold. The proceeds are to be used for final payments on machinery and for working capital. The bonds are secured by the entire property of the company, consisting of factory building, machinery and real estate, all of which has a clear title and is free of any incumbrance.

No. 8.—PHOSPHATE LAND.—600 acres pebble phosphate land within one and one-half miles of two important and competitive railroads. Extensive deposits in sand and marl matrix from two to fifteen feet deep, and ranging from 30 to 80 per cent. pebble. Analyses show from 60 to 80 per cent. phosphate of lime.

No. 9.—A tract of land located in the suburbs of Macon, Ga., and admirably adapted to manufacturing purposes, is offered for sale at reasonable price. The property is at the junction of three railroad lines, has abundant water supply, labor can be obtained cheaply, and all conditions requisite for industrial enterprises are present.

No. 10.—About 10,000 acres of mineral and timber land in one tract in North Carolina can be purchased cheap. The minerals are copper, iron, silver and nickel.

No. 11.—A tract of about 10,000 acres of timber land near Bristol, Tenn. Contains also several large deposits of iron ore which will soon be accessible by railroads now under construction.

No. 12.—About 17,000 acres of coal and timber land in Scott and Wise counties, Virginia, near to both the Norfolk & Western and South Atlantic & Ohio Railroads.

No. 13.—A copper ore property is for sale in North Carolina. There is an extensive deposit of ore upon which some development has been done with results that indicate the existence of a valuable property.

No. 14.—A woodworking concern in Virginia, engaged in the manufacture of interior woodwork, with a well-established trade and an abundance of orders in hand, desires to secure \$10,000 of additional capital to increase the plant and enable more advantageous purchases of material. It is desired that the investor of additional capital in this company shall assume its financial management. The business is well organized, has good plant, and is making money. The addition of more capital will greatly increase its facilities and earning power.

No. 15.—A fine tract of timber property in North Carolina, aggregating about 1,200 acres and covered with hardwoods and pine, can be secured at a reasonable figure. About one-quarter of the property is cleared and is admirably farming land. There are buildings upon the tract which could be utilized to good advantage for manufacturing purposes. There is a railroad station within one mile of this tract.

No. 16.—A valuable coal property in Tennessee, which is well under development, shipping coal regularly and earning a handsome return upon its value, can be purchased at a low figure. The property is sure to earn, under proper management, 10 to 15 per cent. per annum on the price that is asked for it. The property has been in operation about two years, and the mines are well established, and the shipping facilities are excellent.

No. 17.—We have knowledge of a large and very valuable granite property in Virginia, which is available for development and which ought to prove a very good investment. The property lies two and one-half miles from the Norfolk & Western Railroad, and very favorable arrangements can be made for the construction of a side track to the quarry. The property has never been developed, but could be opened at once at small expense. The granite is of excellent quality, admirably-suited for building purposes. The color ranges from pale pink to purple, and the stone is susceptible of a high polish. There are quarries not far distant upon the same vein which are furnishing stone that has a wide reputation.

No. 18.—There is now in the market at a low price a tract of about 100,000 acres of good mountain timber land in western North Carolina. It has railroad communication, is well watered, and is admirably adapted to fruit growing and grazing, and particularly to the culture of tobacco. The timber is chiefly hard wood of several varieties. The property can be bought at a very reasonable figure.


No. 19.—One of the largest known deposits of jet marble in the United States is located near Chattanooga, Tenn., near two railroads and with water communication. The marble is jet black, takes a fine polish, and is equal to any imported varieties. The owner being occupied with other business, will sell this property at a low figure, or might lease it upon a royalty basis.

No. 20.—A tract of about 1,200 acres of pebble phosphate property on Peace River in Polk county, Fla., has just been put upon the market for the first time, and is offered at a very low price. The property is well located for mining purposes, and mining can be carried on at a minimum cost. There are five other mining plants now in operation upon adjoining property, and this tract offers advantages rarely to be found, both in character of the deposit, facility of working and means of shipment. If purchased at once this property can be had at a low figure.

No. 21.—STREET RAILWAY.—A small street railway, in one of the most substantial and most rapidly-growing towns in Virginia, is for sale. The road is now a good-paying piece of property and by reorganization, extension and improvement it can easily be made to pay a good return upon twice its present price.

HECKMAN
BINDERY INC.



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